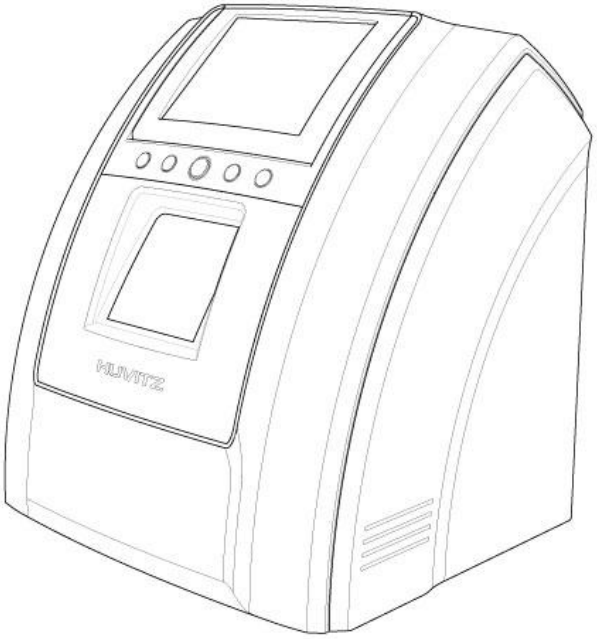
# Operator's Manual

## Excelon XD




Huvitz
Pacing Progress toward People

# IMPORTANT NOTICE

This product may malfunction due to electromagnetic waves caused by portable personal telephones, transceivers, radio-controlled toys, etc. Be sure to avoid having the above objects, which affect the normal operation of the product, brought near the product.

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# Contents

*IMPORTANT NOTICE* ..... *2*

*1. Introduction* ..... *6*

**1.1 System Configuration** ..... **6**

**1.2 Main Features** ..... **6**

**1.3 Classification** ..... **7**

*2. Safety Information* ..... *8*

**2.1 Introduction** ..... **8**

**2.2 Safety Symbols** ..... **9**

**2.3 Environment factors** ..... **10**

**2.4 Safety Precaution** ..... **11**

*3. System Configurations* ..... *17*

**3.1 Main Body** ..... **17**

**3.4 Standard Accessory (Tool Box)** ..... **19**

*4. Installation Procedure* ..... *20*

*5. Operation* ..... *22*

**5.1 Display and Control Buttons** ..... **22**

**5.2 Main Screen** ..... **23**

5.2.1 Layout of main screen ..... 23

5.2.2 Job List Tab ..... 24

5.2.3 Frame Information ..... 25

5.2.4 Layout Options ..... 27

5.2.5 Edging Options ..... 31

5.2.6 Digital Pattern ..... 35
5.2.7 Retouch Mode ..... 40
5.2.8 Menu Bar ..... 43
5.2.9 Menu Dialog Box ..... 44

**5.3 Hole Editor Screen ..... 48**
5.3.1 Layout of Hole Editor ..... 48
5.3.2 Add Hole ..... 50
5.3.3 Change Hole Type ..... 50
5.3.4 Select Hole ..... 51
5.3.5 Delete Hole ..... 53
5.3.6 Hole Position Reference (Horizontal) ..... 53
5.3.7 Hole Position Reference (Vertical) ..... 54
5.3.8 Undo ..... 56
5.3.9 Redo ..... 56
5.3.10 Hole Attributes ..... 58
5.3.11 Hole Position Adjustment ..... 59
5.3.12 Exit ..... 59
5.3.13 Group ..... 60
5.3.14 Hole data Load/Save ..... 64
5.3.15 Hole data preset ..... 66

**5.4 Job Management ..... 67**
5.4.1 Job Save ..... 67
5.4.2 Job Load ..... 69
5.4.3 Internal Data ..... 71
5.4.4 Specify Frame Change Lens ..... 71

***6. User Defined Options ..... 74***

**6.1 Configuration ..... 74**
6.1.1 General ..... 74
6.1.2 Layout Default ..... 75
6.1.3 Edging Default ..... 76
6.1.4 Hole Editor Default ..... 76

**6.2 Frame Fitting ..... 80**

**6.3 Adjustment ..... 82**

6.3.1 Size Adjustment ..... 82
6.3.2 Margin Adjustment ..... 83
6.3.3 Axis Adjustment ..... 84
6.3.4 Bevel Adjustment ..... 85
6.3.5 Grooving Adjustment ..... 87
6.3.6 Safety Beveling Adjustment ..... 88
6.3.7 Clamp Pressure ..... 89
6.3.8 Processing Speed ..... 89
6.3.9 System Adjustment ..... 90
6.3.10 Drilling Adjustment ..... 92

**6.4 Configuration Management ..... 98**

***7. System Maintenance ..... 99***

**7.1 Setup Time ..... 99**

**7.2 Test Mode ..... 99**

**7.3 Wheel Dressing ..... 99**

**7.4 Replacing Drill Bit ..... 100**

**7.5 Automatic Calibration ..... 100**

**7.6 Statistics ..... 101**

**7.7 Maintenance Tips ..... 102**

***Standard Accessory ..... 103***

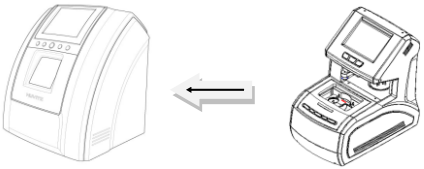
***Specification ..... 104***

***Drawings of System ..... 105***

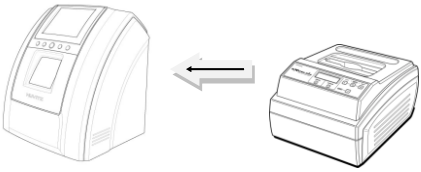
# 1. Introduction

## 1.1 System Configuration

- Edger (HPE-7000) + Auto Blocker (CAB-4000)



- Edger (HPE-7000) + Frame Reader (CFR-4000)



## 1.2 Main Features

- All the finishing processes, tracing to edging, are fully operated with the advanced 3D Digital Technology optimizing the productivity and efficiency

| Edging / Material | Beveling | Flat Edging | Grooving | Polishing | Safety Beveling | Drilling |
|---|---|---|---|---|---|---|
| Plastic | ○ | ○ | ○ | ○ | ○ | ○ |
| Glass | ○ | ○ | X | X | ○ | X |
| High Index | ○ | ○ | ○ | ○ | ○ | ○ |
| Polycarbonate | ○ | ○ | ○ | ○ | ○ | ○ |
| Trivex® | ○ | ○ | ○ | ○ | ○ | ○ |

- High Resolution TFT-LCD (10.4") with Touch Screen and the Intuitive Icon-based User Interface are harmonized to offer the maximum convenience for everyday

use

- The "Digital Pattern Layout" modifies the lens shape in left/right, top/bottom as well as circumference and optimizes the fitting challenge for Rimless and Semi-Rimless

- Frame Tracing, Layout and Lens Edging can be processed simultaneously. Frame Tracing and Layout work can be stored in advance during the lens edging process

- Graphically Designed Test Mode enables the operator to effectively perform the routine maintenance without the technical assistance

- Any shape and materials of frames from rimless to goggles are automatically and precisely scanned with 3D technology ensuring no margin of error

- More than several hundreds of frames are memorized in the external memory card . Therefore, users can retrieve them whenever they want.

- The compete harmony between the robust hardware and the machining algorithm makes the whole machining processes much more stable and fast.

## 1.3 Classification

- Protection against electric shock: Class I(earthed)
- Installation Category: II
- Pollution Degree: 2

# 2. Safety Information

## 2.1 Introduction

Safety is everyone's responsibility. The safe use of this equipment is largely dependent upon the installer, user, operator, and maintainer. It is imperative that personnel study and become familiar with this entire manual before attempting to install, use, clean, service or adjust this equipment and any associated accessories. It is paramount that the instructions contained in this manual are fully under stood and followed to enhance safety to the patient and the user/operator. It is for this reason that the following safety notices have been placed appropriately within the text of this manual to highlight safety related information or information requiring special emphasis. All user, operators, and maintainers must be familiar with and pay particular attention to all warning and cautions incorporated herein.

**⚠ WARNING**

"Warning" indicates the presence of a hazard that could result in severe personal injury, death or substantial property damage if ignored.

**⚠ CAUTION**

"Caution" indicates the presence of a hazard that could result in minor injury, or property damaged if ignored.

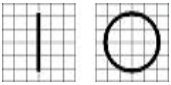
**⚠ NOTE**

"Note" describes information for the installation, operation, or maintenance of which is important but hazard related if ignored.

## 2.2 Safety Symbols

The International Electro technical Commission (IEC) has established a set of symbols for medical electronic equipment, which classify a connection or warn of any potential hazard. The classifications and symbol s are shown below.

**Save these instructions**

| | |
|---|---|
|  | I and O on power switch represent ON and OFF respectively. |
| | This symbol identifies a safety note. Ensure you understand the function of this control before using it. Control function is described in the appropriate User's or Service Manual. |
| | Identifies the point where the system safety ground is fastened to the chassis. Protective earth connected to conductive parts of Class I equipment for safety purposes. |
| | Disposal of your old appliance<br>1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.<br>2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.<br>3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.<br>4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product. |

## 2.3 Environment factors

Avoid the following environments for operation or storage:

| | |
|---|---|
| | Where the equipment is exposed to water vapor.<br>Don't operate the equipment with a wet hand. |
| | Where the temperature changes extremely.<br>- Operation Temperature: 10 ~ 40°C<br>(Humidity : 50 ~ 80%)<br>- Storage Temperature : -20 ~ 85°C (Humidity : 50 ~ 80%) |
| | Where the humidity is extremely high or there is a ventilation problem. |
| | Where equipment is exposed to chemical material or explosive gas. |
| | Where the equipment is exposed to direct sunlight. |
| | Where it is near the heat equipment. |
| | Don't disassemble the product or open. We aren't responsible for it for nothing. |
| | Don't plug the AC power cord into the outlet before the connection between devices of the equipment is completed. This can generate the defect. |
| | Where the equipment is subject to excessive shocks or vibrations. |

| | |
|---|---|
| | Be careful not to be inserted dust, especially, metal |
| | Be careful not to close the fan located on the lateral or backside of the equipment. |
| | Pull out the power cord with holding the plug, not the cord. |

Avoid places where the ambient temperature falls below 10℃ or exceeds 40℃ for normal operation, or below –20℃ or exceeds 85℃ for transportation and storage. Humidity should be maintained between 50% and 80% for normal operation, transportation and storage. Avoid environments where the equipment is exposed to excessive shocks or vibrations. And also the normal operation time is as following:

**operation time : short term operation max 6min**

## 2.4 Safety Precaution

This equipment has been developed and tested according to safety standards as well as national and international standards. This guarantees a very high degree of safety for this device. The legislator expects us inform the user expressively about the safety aspects in dealing with the device. The correct handling of this equipment is imperative for its safe operation. Therefore, please read carefully all instructions before switching on this device. For more detailed information, please contact our Customer Service Department or one of our authorized representatives.

(1) This equipment must not be used (a) in an area that is in danger of explosions and (b) in the presence of flammable, explosive, or volatile solvent such as alcohol, benzene or similar chemicals.

(2) Do not put or use this device in humid rooms. Humidity should be maintained between 50% and 80% for normal operation. Do not expose the device to

water splashes, dripping water, or sprayed water. Do not place containers containing fluids, liquids, or gases on top of any electrical equipment or devices.

(3) The equipment must be operated only by, or under direct supervision of a properly trained and qualified person.

(4) The service technician of Huvitz or the technician authorized by Huvitz may only carry out modifications of this equipment.

(5) Customer maintenance of this equipment may only be performed as stated in the User's Manual and Service Manual. Any additional maintenance may only be performed by the service technician of Huvitz or the technician authorized by Huvitz.

(6) The manufacturer is only responsible for effects on safety, reliability, and performance of this equipment when the following requirements are fulfilled: (1) The electrical installation in the respective room corresponds to the specifications stated in this manual and (2) This equipment is used, operated, and maintained according to this manual and Service Manual.

(7) The manufacturer is not liable for damage caused by unauthorized tampering with the device(s). Such tampering will forfeit any right to claim under warranty.

(8) This equipment may only be used together with accessories supplied by Huvitz. If the customer makes use of other accessories, use them only if their safe usability under technical aspect has been proved and confirmed by Huvitz or the manufacturer of the accessory.

(9) Only person who has undergone proper training and instructions are authorized to install, use, operate, and maintain this equipment.

(10) Keep the User's Manual and Service Manual in a place easily accessible at all times for persons operating and maintaining the equipment.

(11) Do not force cable connections. If a cable does not connect easily, be sure that the connector (plug) is appropriate for the receptacle (socket). If you cause any damage to a cable connector(s) or receptacle(s), let the damage(s) be repaired by an authorized service technician.

(12) Please do not pull on any cable. Always hold on to the plug when disconnecting cables.

(13) Before every operation, visually check the equipment for exterior mechanical damage(s) and for proper function.

(14) Do not cover any ventilation grids or slits. Immediately turn off and unplug any equipment that gives off smoke, sparks, strange noises, or odors.

(15) Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

(16) Edger produces a noise. To prevention of the noise damage, You use the earplug.

(17) Keep to use LAN Port only in the inside building.

(18) When you carry this product, please use a hand cart. At least three persons are necessary to lift the equipment.

(19) To avoid the risk of electronic shock, this equipment must only be connected to a supply mains with protective earth.

(20) Do not position the equipment so that it is difficult to operate the disconnecting device. (disconnecting device : power cord appliance inlet)

(21) This machine might be impaired if used in a manner not specified by manufacturer and this manual.

## ⚠ WARNING

- Be sure that any part of human body is not interfered with the edging wheel during the operation. Otherwise, the person may be seriously hurt.

- Edging room cover should be fully closed during the lens finishing process. If the lens is broken during the process, the broken pieces of lens may cause the damage to the person. The debris may also cause the damage to the human eye.

- Be sure not to press the clamp button unless the wheel completely stops. Otherwise, the lens may be fallen and broken by the wheel, and cause the damage to the person.

- If the crack appears on the edging wheel or on the base of the product, immediately stop the operation and ask for the service. If the edging wheel is broken during the operation, the broken pieces may cause the serious hurt.

- Be sure not to edge the materials other than the spectacle lenses. Otherwise, it may deteriorate the wheel performance and cause the crack on it. If the edging wheel is broken during the operation, the broken pieces may cause the serious hurt.

- Be sure not to operate the product unless the front cover of edging body is fully closed. Otherwise, it may cause the serious hurt.

- The equipment should be properly installed and operated based on the instructions on this manual. If the power is turned on without unlocking the locking device for the carriage and feeler, it may cause the damage to the product and cause the malfunction of the product.

## ⚠ WARNING

- Do not disassemble the product without the proper training. It may cause the electric shock, serious hurt during the operation or cause the malfunction of the product.

- Be sure the material of lens is matched with the job options selected in the display before starting the edging mode. Otherwise, it may cause the damage to the wheel and shorten the lifetime of wheel.

- The safety beveling for glass lenses should be performed both at front and rear side. Otherwise, it will cause the damage to the human skin.

- The product should be properly installed and maintained at the horizontally leveled place. Otherwise, it may affect the normal operation of the product.

- Be sure that the fingers are not caught during clamping.

- In case of detaching the lens adapter from the finished lens, use the Adapter Remover supplied as the standard accessory. Do not pull out the lens adapter with bare hands.

- Be sure that the water supply hose is not folded or interfered with other objects causing the problem of water supply. It may deteriorate the quality of lens finishing. The debris of lens may cause the damage to the respiratory organ of operator and malfunction of the product.

## ⚠ CAUTION

- When moving the equipment, first fix the stage and check whether the power supply is off. Then, two persons should lift the bottom of the product with both hands.

- In case of setting down the equipment, make sure not to be interfered with the obstacles. Setting down the product slowly in order to prevent the hurt of human body or damage to the product.

- When moving the equipment, make sure the locking device and the screw for the cover are properly tightened.

- In case of packaging the equipment, use the recommended packaging material and method in order to prevent the damage during the transportation.

## ⚠ CAUTION

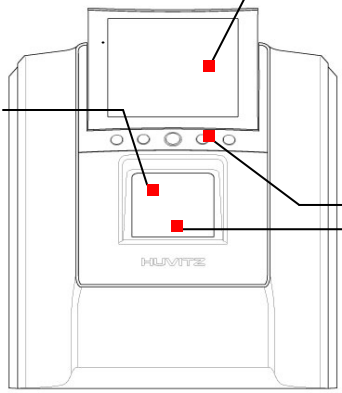
- Be sure to use the standard accessories or tools provided together with the product for the maintenance. Otherwise, it may cause the malfunction of the product.

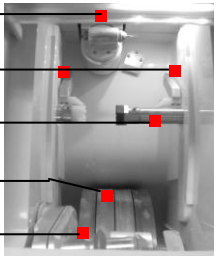
- In case of wheel dressing, be sure to use the dressing stick fitted with each wheel. The dressing stick should be replaced in case the length becomes smaller than the size, which can be hold by hand.

# 3. System Configurations

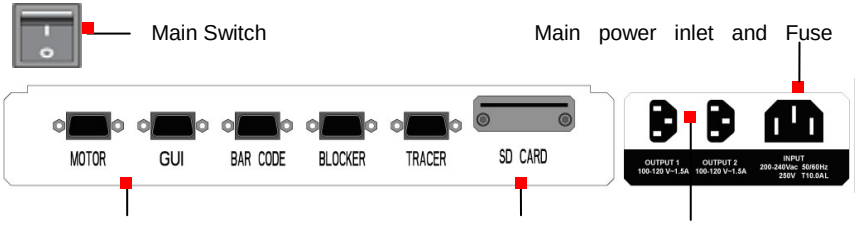
## 3.1 Main Body

**Front View**



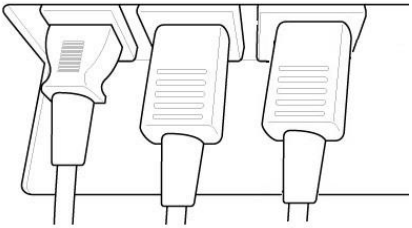

**Top View**

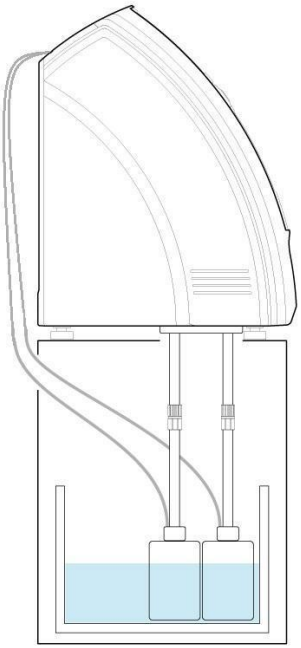



• MOTOR/GUI : maintenance • BLOCKER : Auto Blocker

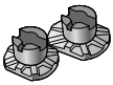
• BAR CODE: Barcode Reader • TRACER : Frame Reader

## For Edging Polycarbonate





### 3.4 Standard Accessory (Tool Box)



Lens Adaptor

Drill Bit

LEAP-Ⅲ Tape

Combination Wrench

Lens Adaptor Remover

Fuse(250V,10A)

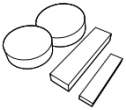
Standard Frame

Standard Pattern

Pattern Holder

Standard JIG for Edger

Wrench Set



Dressing Sticks

Feeler Tips

Fixing Bracket

**⚠ NOTE**

- Only Use 3M LEAP-III™ as the Block Tape in order to assure the proper axis positioning.
- In case of Super Hydrophobic Lens, use the specialized sticker in order to assure the proper axis position**.**

# 4. Installation Procedure

① Remove the shock-absorbing material from the packing box and pull out the Edger carefully.

② Unfasten the screw at the Edger Front Cover and lift it open.

③ Remove the Fixing materials (bracket, sponge, tape).

④.Plug the Pump Power Cable into the receptacle for Pump at the back of the product.

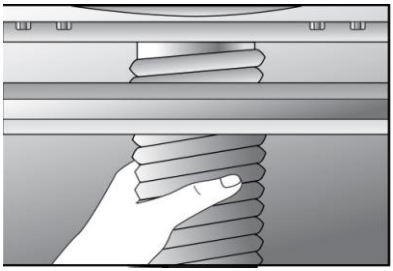
⑤ Connect Water Supply Hose into the Pump.

⑥ Connect Water Drain Hose into Water Drain Hole and tie it with the fixing clip.

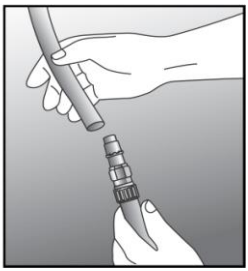
⑦ Assemble the Edger Left Cover and Edger Front Cover.

⑧ Check the Initialization.

Store the Fixing materials into the toolbox for the use of moving the product.



[Connecting the Water Drain Hose]



[ Connecting the Water Supply Hose ]

Fixing Clip for Water Drain Hose

**NOTE**

- Fill up 2/3 of the tank with water and make sure that the water supply hose is not dragged below the pump, and is not folded or interfered with other objects.
- Use the Clip to tie the Water Supply Hose properly.

## ⚠ CAUTION

- If the initialization process fails, check the following.
  - Check drill fixing sponge removed
  - Check carriage fixing sponge removed (Right and Left)
  - Check carriage fixing bracket removed
  - Check feeler fixing tape removed

- If the touch screen does not work, run the touch calibration function.
  - Turn off the system and then turn on the system with the [WINDOW] key pushed.
  - After a while touch calibration screen displayed.
  - Follow the instruction displayed on the screen.

- If the initialization error occurs continuously, follow the instruction below.
  - Memorize error message displayed on the screen.
  - Turn off the system and then turn on the system with the [STOP] key pushed.
  - After a while main screen displayed on the screen without initialization.
  - Run "Tool – Test Mode" in the menu bar and check the system.

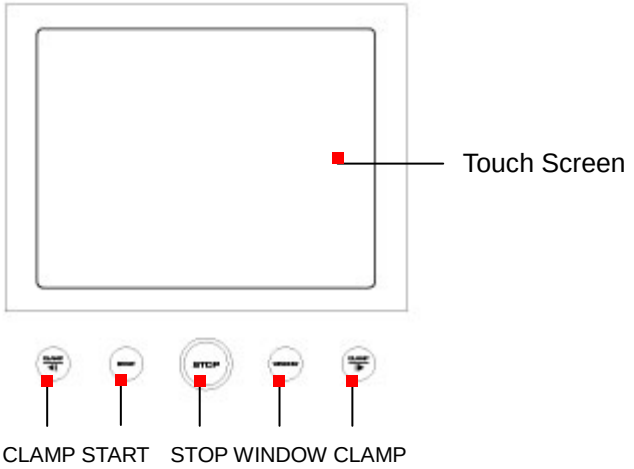
- If the edger work correctly, make sure reset current time. (see chapter [7.1] for setup time)

- Make sure to turn off the system before insert or remove SD memory card.

- If you insert or remove the SD memory card while edger is running, the data in the SD card can be corrupted and that data corruption can cause machine malfunction.

# 5. Operation

## 5.1 Display and Control Buttons



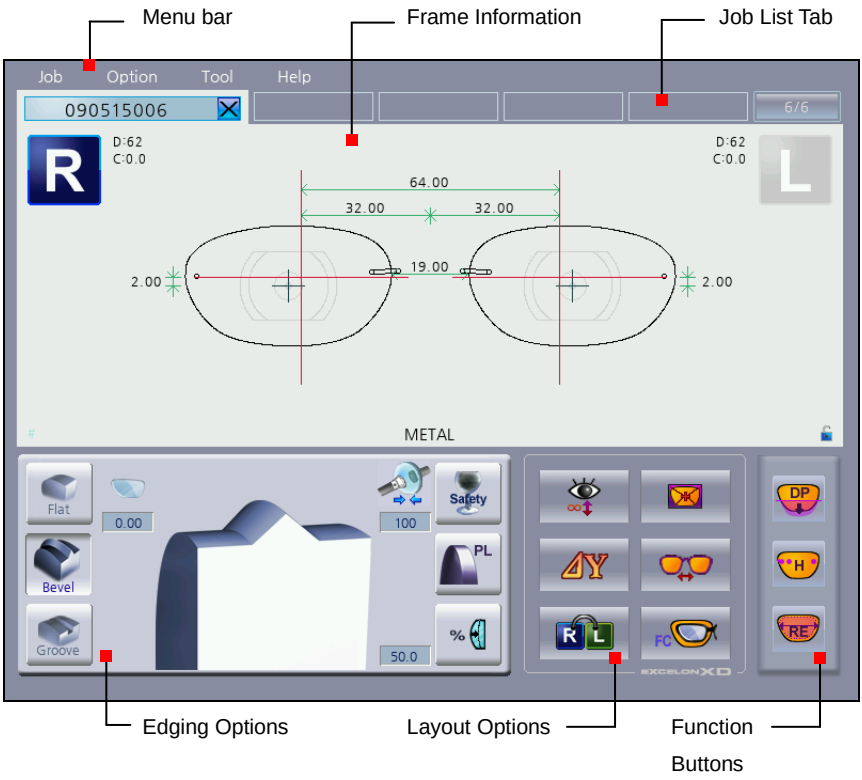

| | |
|---|---|
| **CLAMP** | Open/Close Clamp (Lens Position Left/Right) |
| **START** | Start Edging |
| **STOP** | Stop Edging |
| **WINDOW** | Open/Close Edging Room Window |

**NOTE**

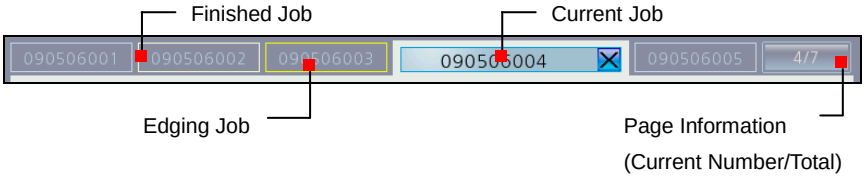
- Clamp Buttons in the Left and Right provide the exactly same function. They are provided for the convenience to press the button by the bare hand without holding the lens.
- Be sure that Lens Position Button only works during Roughing process. It is useful to adjust the lens position if the lens exceeds the wheel range because of the thickness.

## 5.2 Main Screen

### 5.2.1 Layout of main screen



### 5.2.2 Job List Tab




All jobs in the edger displayed on the tabbed menu.

Maximum 5 jobs are displayed in a page and touch the tab to select the job.

If total job count is more than 5, "Page Information" tab is used for page movement and maximum 100 jobs can be managed.

Finished job can be deleted by touching delete icon( ).

**NOTE**

- Color of the job tab (border color) changed by processing status.

- Page movement

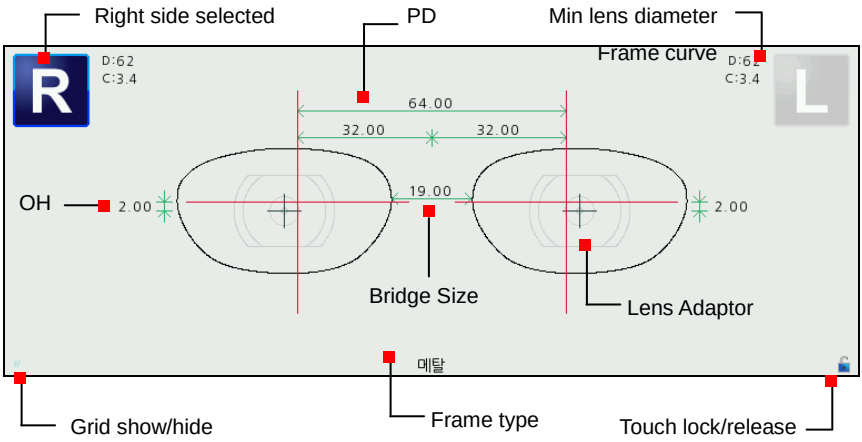
Page Down

Touch left side and drag to right

Page Up

Touch right side and drag to left

### 5.2.3 Frame Information




If a job selected, frame shape is displayed on the screen in actual measurement with the frame information.

The black cross mark is boxing center and the red cross mark is optical center. Optical center position is determined by PD and OH values entered by user.

Lens adaptor image means blocking position and displayed at either boxing center or optical center according to blocking mode.

PD/OH/Bridge Size values can be changed by touching its value area. (Numerical keypad displayed on the screen)

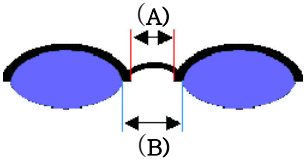
Min lens diameter, Frame curve and frame type cannot be modified.

Binocular PD and monocular PD are displayed together and if one value changed the other value calculated automatically.

OH value shows one of following value according to OH type option. (Delta Y, Box Height, Mix Height)

## NOTE

- Changing bridge size display option, FPD can be displayed instead of bridge size(Default option is bridge size).
- FPD : Distance between the frame centers (boxing centers)
- In case of Two Eye Tracing, the value of FPD will be automatically transmitted and displayed.
- In case of pattern tracing, be sure to change the standard value to the actual Bridge Size.
- In case of One Eye tracing, it will be helpful to use Bridge Size Input function. (It is much easier to measure the Bridge Size)
- Measure the Bridge Size as (B) instead of (A). Remember that the Bridge Size is not from frame to frame, but from lens to lens,

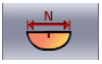


### 5.2.4 Layout Options

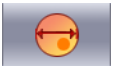
These icons are used for changing layout options.
Touch the icon to change the option.

(1) Lens Type

Single Focus
(Far Vision)



Bi-focal
(Near Vision)



Blend Bi-focal lens
(Near Vision)

(2) Blocking Mode

Optical Center

Boxing Center
(Frame Center)

(3) OH type

FPD based OH
(Delta Y)

Box Height

Mix Height

(4) Bridge Size / FPD

Bridge Size

FPD

(5) Right/Left Synchronization

Execute Right/Left Synchronization

Cancel Right/Left Synchronization

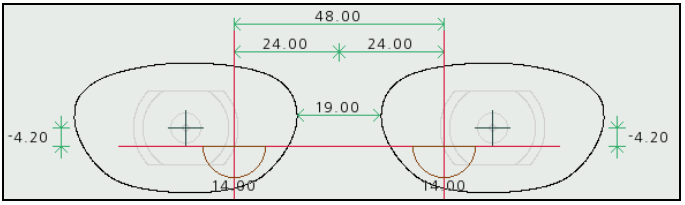
(6) Frame Change Mode

Frame Change

Cancel Frame Change

## NOTE

- In case of executing the options for Bi-Focal(Near Vision) and Blend Lens (Near Vision) , Near Vision Shape will be displayed on the LCD screen. If you input the diameter, you can see the frame shape similar to the actual lens shape and check the interference.

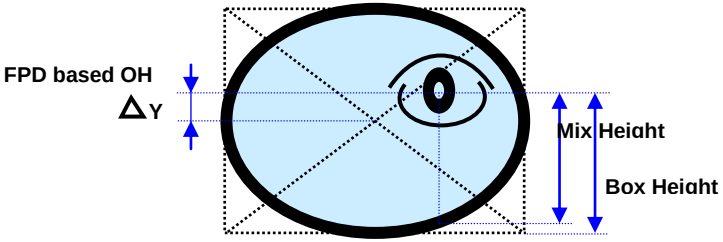



- Be sure to execute Boxing Center mode ( ) for the followings.
  - ☞ PD is in eccentric position
  - ☞ Horizontally Wide Frame
  - ☞ Super Hydrophobic Lens or Ultra Hi-Index Lens

- In case of Layout with Monocular PD, be sure to cancel Right/Left

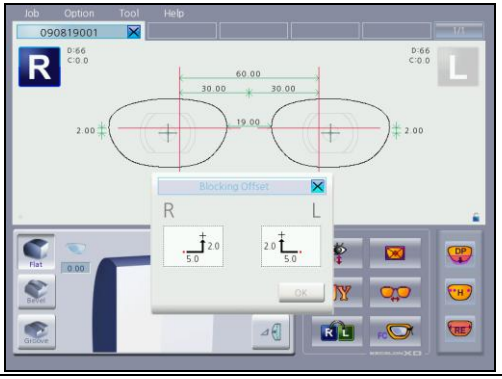
Synchronization ( ) .

- The exact meaning of the mix height and the box height is as following:




- It is so important to measure the optical height of the patient precisely when edging a progressive lens. Sometimes, too short optical height might cut out the near vision area.

- In the Boxing Center mode, "Blocking offset" function is helpful to block lens manually. ("Help – Blocking Offset" in the menu bar)

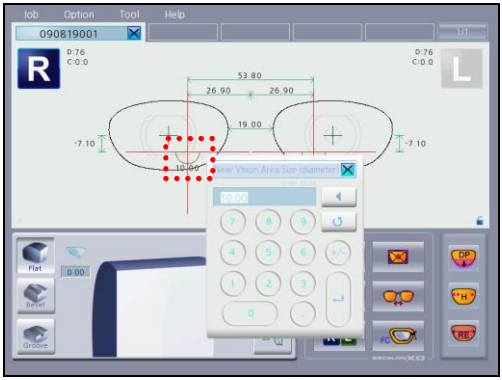


## NOTE

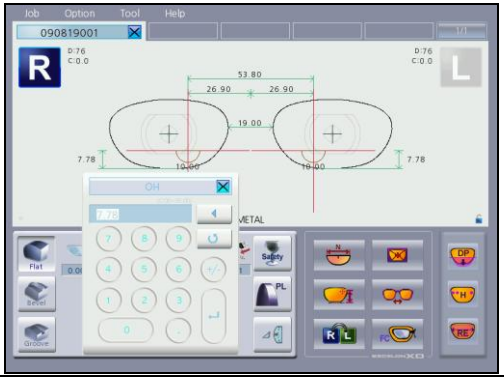
- Bifocal Lens Layout

(1) Change Lens type option to bifocal mode(Select either "Bifocal" mode or "Bifocal(Blend)" mode).

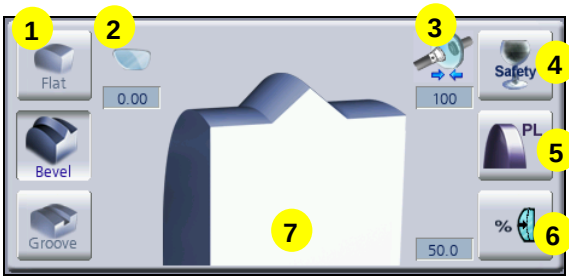
(2) Adjust near vision area size.




(3) Input near vision PD and OH(Use either "Box-Height" type or "Mix-Height" type).



### 5.2.5 Edging Options




These icons are used for changing edging options. Touch the icon to change the option.

(1) Edging Type

Beveling

Flat Edging

Grooving

(2) Size Adjustment

(3) Clamping Pressure Adjustment

(4) Safety Mode

Normal Mode

Fragile Mode

**NOTE**

- Select Fragile mode or adjust clamp pressure in case the lens may be broken.

(5) Lens Material

Plastic (CR39)

Polycarbonate

HI-Index

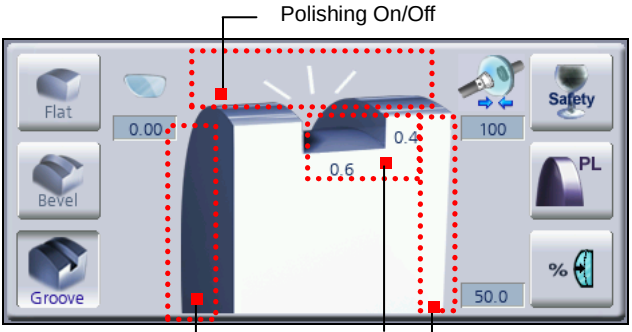
Glass

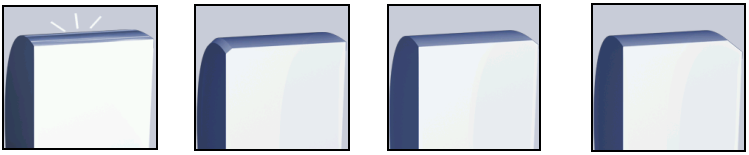
Trivex®

(6) Bevel/Groove Position

Front Side % Front Side mm Rear Side mm Base Curve

(7) Main Edging Option Icon (Polishing, Safety Beveling, Groove Width/Depth)



Polishing On | Front Safety Beveling | Rear Safety Beveling | Rear Safety Beveling (L)

**NOTE**

- According to the Edging Options, Beveling and Grooving position can be selected independently.

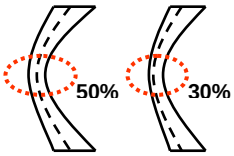
  ☞ Ratio (%) from the Front side of the lens

  ☞ Distance (㎜) from the Front side of the lens

☞ Distance (㎜) from the Rear side of the lens

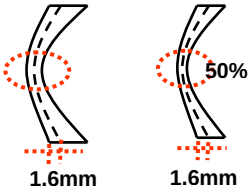
☞ Adjust the position according to the Lens Base Curve and the Minimum Thickness (0~10)

- The value of the edging options affects the final output as followings :



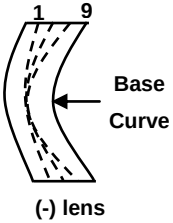

**[ Ratio(%) mode from the front side ]**

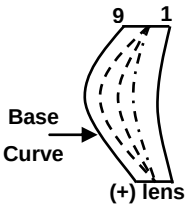
- Like the above picture, if the operator use ratio(%) mode from the Front side about a so thin lens, the machining of the thinnest part could be dangerous.




**[ Distance(mm) mode from the front side ]**

- Using the distance(mm) mode from the front side, the operator can designate the specific distance, However, if the thickness of the thin area is less than the double of the designated value, the machine internally forces it to be machined by the 50% of the thickness at the thin position.




**[Base curve mode]**

- In the base curve mode, base curves of (+) lenses and (-) lenses exist the

opposite side of each of them. In this mode, the bevel or grooving line always passes the mid of the thinnest area which is located at the midst zone of (-) lenses and is located at the edged zone of (+) lens. And much bigger position value makes the curve closer to the base curve.

- Frame Material, Lens Material and Lens Thickness may affect the quality of Lens Fitting. If needed, execute the Size Adjustment ( ) in advance. Frequently used Adjustment Value can be stored at "Frame Fitting" in the menu.

- Be sure to carry out the Edging Process in Fragile Mode ( ) in case the lens may be broken or the axis may be tilted during the edging process.

- Grooving and Polishing is not available for the Glass Lens. Be sure the material of lens is matched with the job options selected in the display before starting the Edging Mode.

- Be sure to use the new Tape or Sticker and erase the wet from the Lens surface.

## ⚠ CAUTION

- The safety beveling for glass lenses should be performed both front and rear side. Otherwise, it will cause the damage to the human skin.

- To prevent the distortion of axis, you should put stickers for blocking of hydrophobic lenses. Stickers are provided by lens manufacturers. Otherwise, we do not guarantee the quality of the stickers.

### 5.2.6 Digital Pattern

The "Digital Pattern" modifies the lens shape in left/right, top/bottom as well as rotation and optimizes the fitting for Rimless and Semi-Rimless.

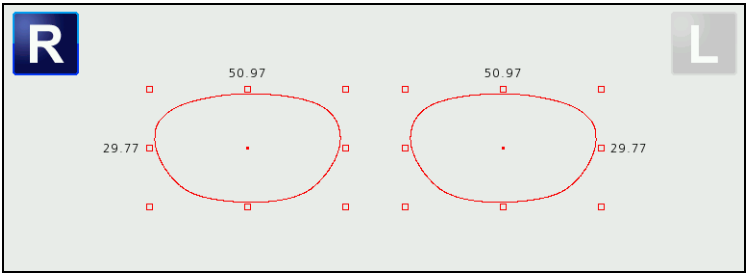
To use Digital Pattern, touch the digital pattern button( ) on the function button area.



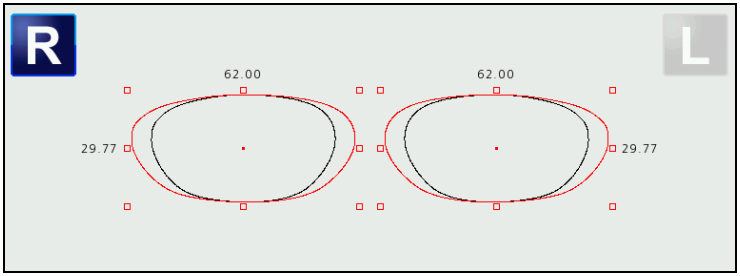
Layout option button area changed to Digital Pattern buttons and all other options are disabled..

(1) Enlargement/Reduction

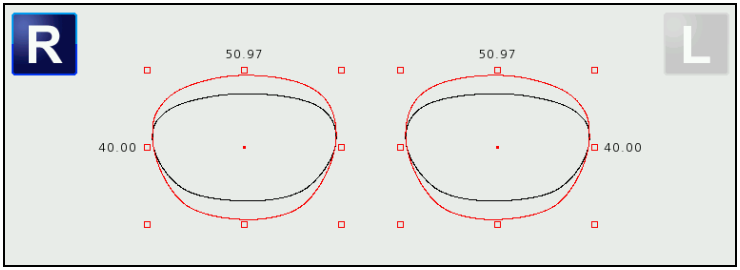
To enlarge or reduce lens shape, touch and drag one of 8 touch boxes. You can freely enlarge or reduce lens shape.



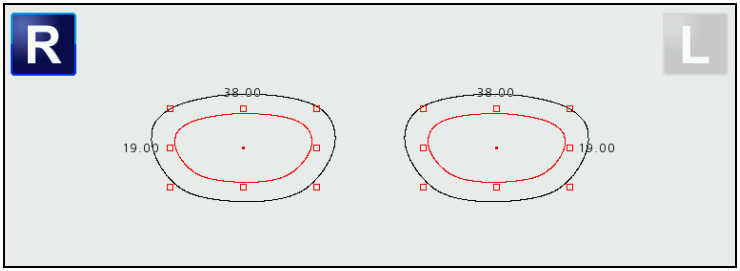

Touch Box




Left/Right Enlargement

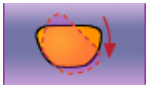



Top/Bottom Enlargement

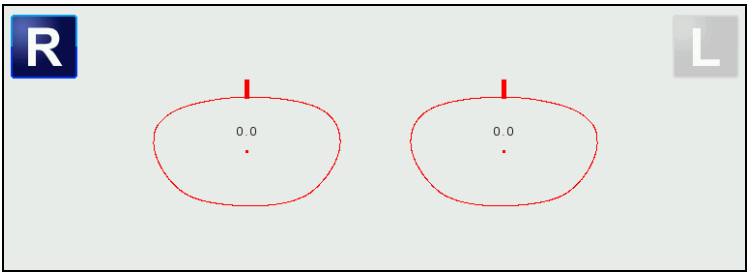



Reduction

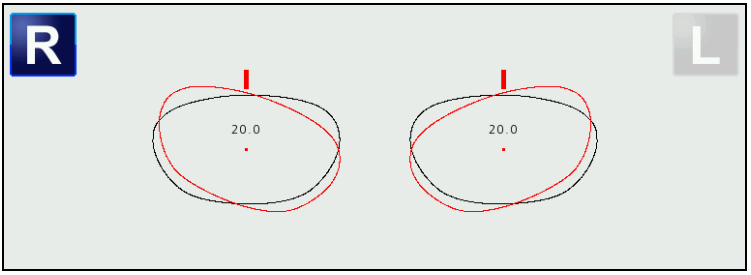
(2) Rotation



To rotate lens shape, touch and drag Rotation Stick.
You can rotate lens shape clockwise or counterclockwise.



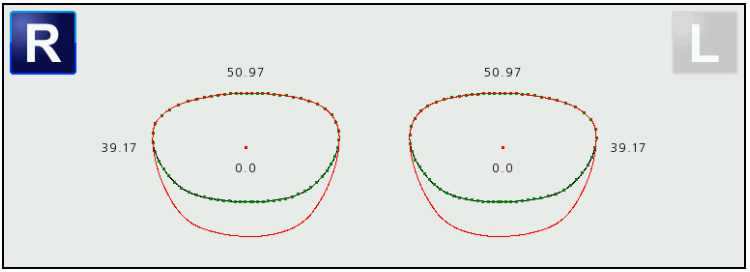

Rotation Stick




Rotate 20 degrees (Clockwise, Right Lens)

(3) Near Vision Area Enlargement/Reduction

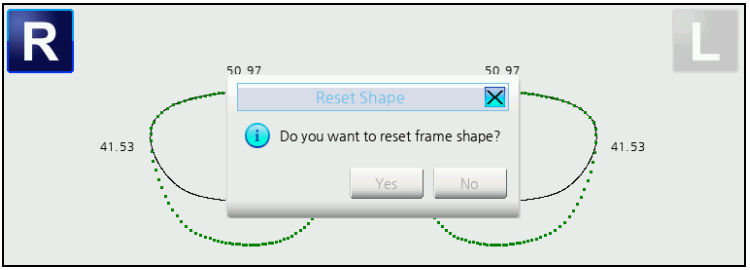
This function only applied to near vision area.
To change lens shape, touch bottom out line of the lens and drag downward or upward.




Near Vision Area Enlargement

(4) Reset

Recover original lens shape. (Restore the first frame shape received from frame reader or auto blocker)

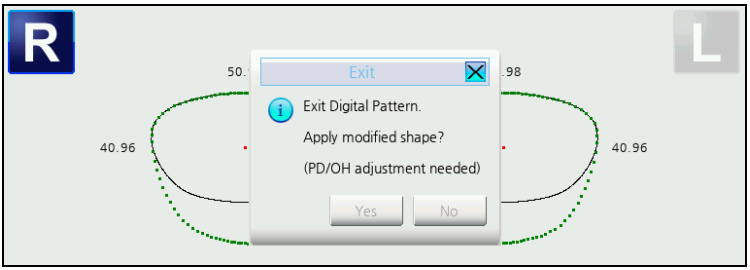



Reset

(5) Exit

Finish Digital Pattern function.

When exit dialog box popped up, select "Yes" to save modified lens shape. If you choose "No", Digital Pattern function will close without saving data.




Exit

## NOTE

- For the half-framed lens or the rimless lens, the digital pattern provides the convenient reformation. The redesign of the frame shape could be done easily using the digital pattern.

- For the bi-focal lens or the progressive, the digital pattern makes the near vision area included within the frame. Sometimes too small frame shape might cut out the near vision area. In this case, the digital pattern provides the enlargement of the frame shape.

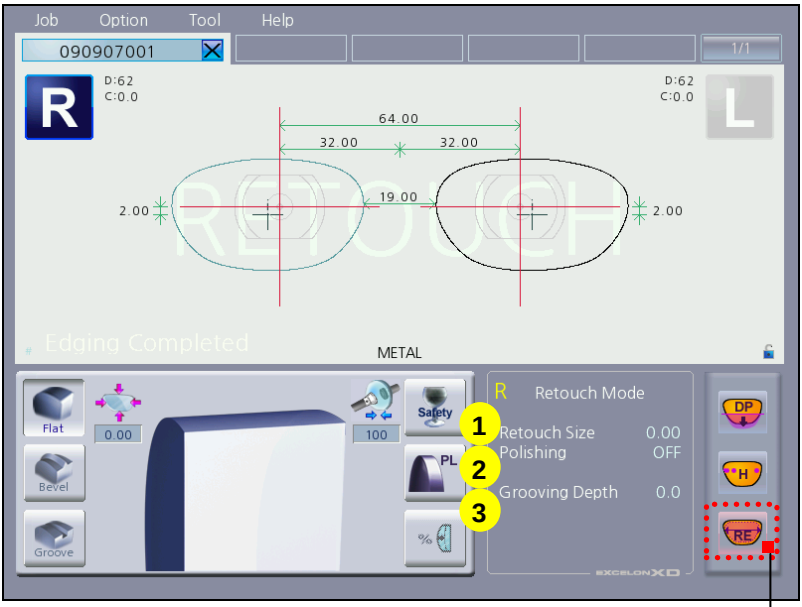
- Optical center position is determined by PD and OH values. So after digital pattern applied, optical center position may be different. Be sure to check optical center position and PD/OH values.

### 5.2.7 Retouch Mode

If the finished lens is too large, it is possible to readjust lens size in the retouch mode,.

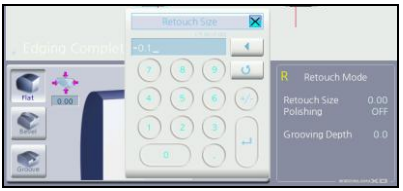
After finishing, touch the Retouch icon and then setup retouch options.

Press the [START] button to start retouching.




Toggle Retouch Mode

(1) Input the lens size to be decreased by Retouch (Unit : mm)



Input value : 0 or minus number

(2) Activate/Cancel Polishing

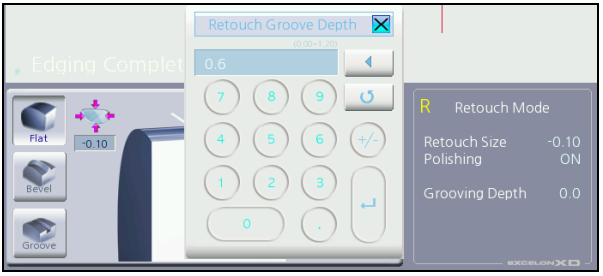
The operator can activate polishing, even if the lens has not been polished originally.

Activate Polishing

Cancel Polishing

(3) Activate Grooving

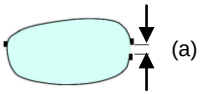
Even if the lens has been flat edged, the operator can add grooving by entering grooving depth value. However, grooving position and width cannot be changed.




Activate Grooving

## NOTE

- Be sure not to remove the Lens Adapter to activate the Retouch Mode.
- Be sure not to change any edging option before entering Retouch Mode.
- The recommended Retouch Size will be 1/3 of the length shown as (a).

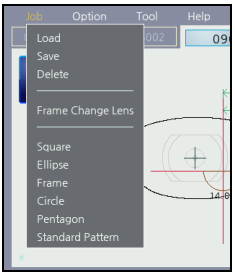



- If the edging type is Beveling, grooving function disabled and vise versa.
- To return to main screen, touch the retouch button again.
- Retouch can only be performed on the job edged right before.

### 5.2.8 Menu Bar

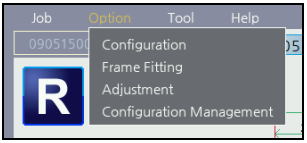
All additional functions are provided in the menu bar for user convenience.
Menu bar always displayed on the top of the screen.

(1) Job (Job related functions)



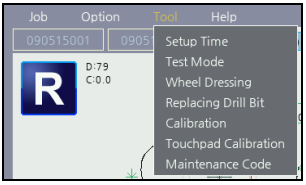

Job load, Job save, Job delete, internal data, etc.

(2) Option (User Configuration Options)




Configuration, Frame Fitting, Adjustment, Configuration Management.

(3) Tool (Maintenance tools)



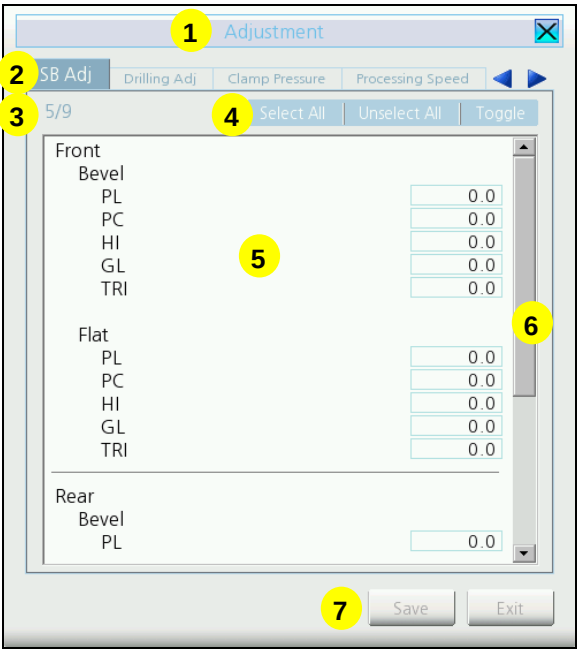

Setup Time, Test Mode, Wheel Dressing, Replacing Drill bit, etc.

**NOTE**

- Details of the menu bar function provided in separate chapter.

### 5.2.9 Menu Dialog Box

All configurations can be set using the Menu Dialog Box.




(1) Menu title

(2) Sub-menu tab

Up to 4 sub-menu entries are displayed in the Sub-menu tab. To select menu, touch the tab. Using arrow buttons, you can move to the next/previous sub-menu.

(3) Current sub-menu number (current / total)

(4) Select/Unselect/Toggle Button

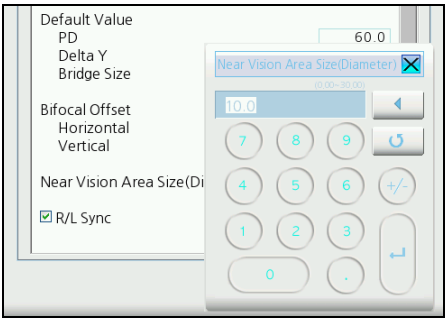
(5) Menu item area

There are three types of items. Value, List, Check Box.

- Value

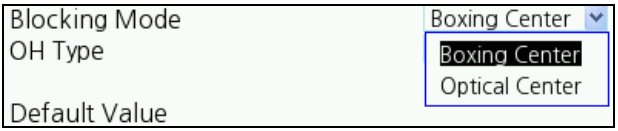
  This is an item you can enter value directly.

  Touch the value box and enter the value using the numeric keypad.



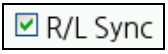

- List

  List item shows the values you can select.




- Check box

  You can select or disable the feature using check box.




(6) Scroll bar

You can use the scroll bar to move around the items.

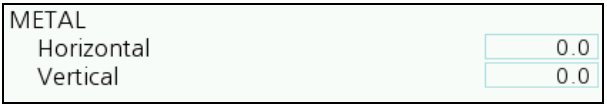
(7) Save/Exit Button

After you finish changing, touch the save button to apply changes to the system. Or touch the exit button to exit without applying the changes.

**NOTE**

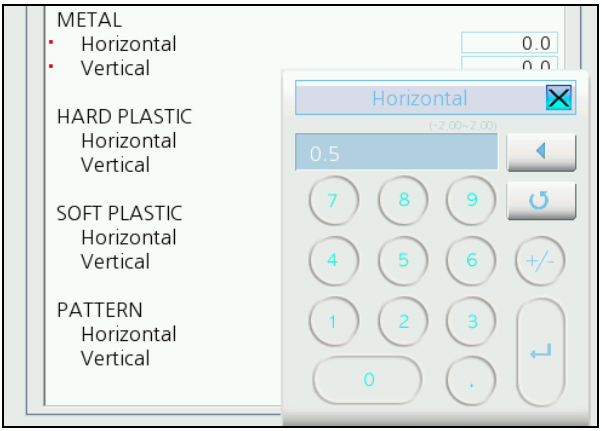
- Change multiple values

Multiple items can be changed to the same value.

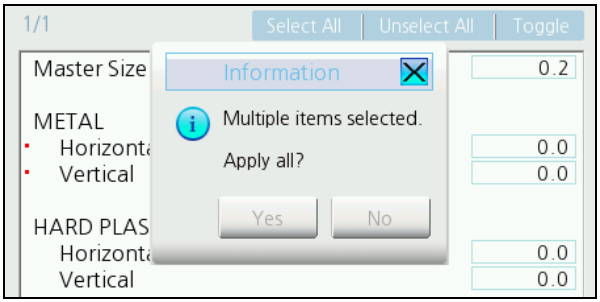



If you touch the label of the item, selection icon displayed at the left of label.

Enter the value using the numeric keypad.



If you enter the value, information message box displayed on the screen.



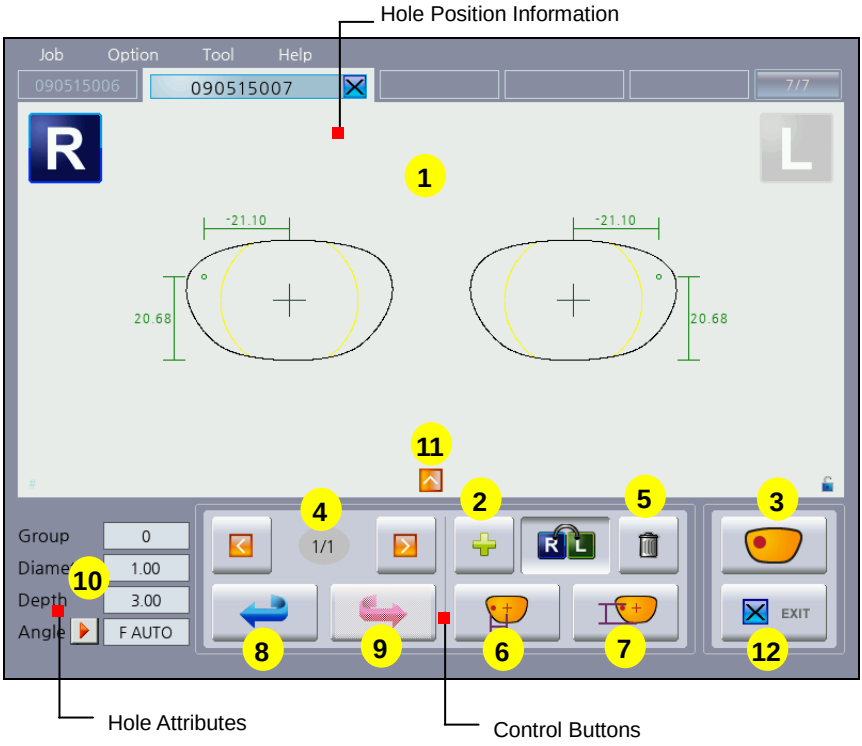

Select "YES" to apply the value to all.

## 5.3 Hole Editor Screen

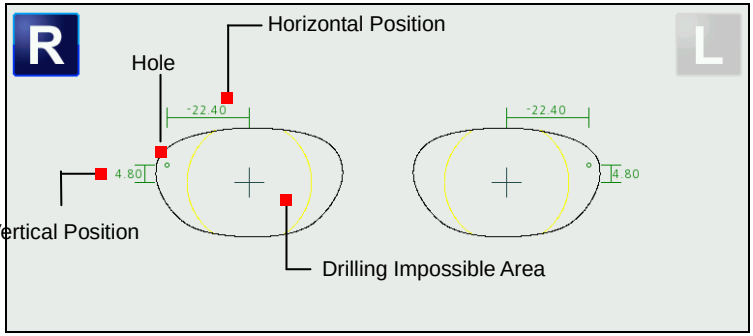
Hole Editor is used for specifying hole position for drilling.

Touch Hole Editor button ( ) to enter hole editor screen.

### 5.3.1 Layout of Hole Editor



(1) Hole Position Information




(2) Add Hole

(3) Change Hole Type

(4) Hole ID / Select Hole

(5) Delete Hole

(6) Hole Position Reference (Horizontal)

(7) Hole Position Reference (Vertical)

(8) Undo

(9) Redo

(10) Hole Attributes

(11) Hole Position Adjustment

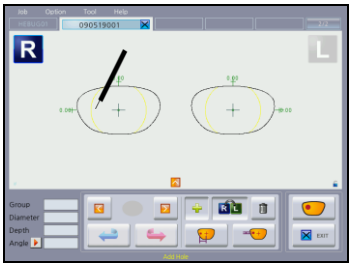
(12) Exit

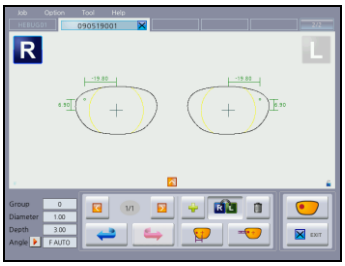
**NOTE**

- To use Hole Editor, the blocking mode option must be set to "Boxing Center" mode. If hole data already added, blocking mode cannot be changed to "Optical Center".

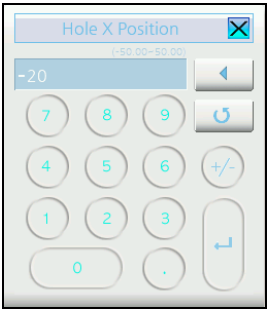
### 5.3.2 Add Hole

To add hole, touch "Add" button( ) and then touch hole position in the frame area.





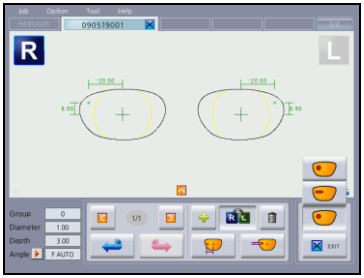
To specify hole position accurately, touch hole position value and then enter exact hole position value with numeric keypad.




### 5.3.3 Change Hole Type

Currently Hole editor supports two types of hole. (Hole & Slot)

"Change Hole Type" button( ) specifies hole type to be added.

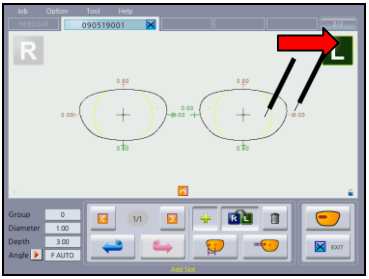


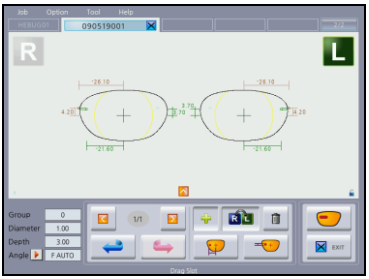
Hole

Slot

**NOTE**

- Adding a Slot
  (1) Change hole type to "Slot"
  (2) Touch start position of slot in the frame area and then drag.



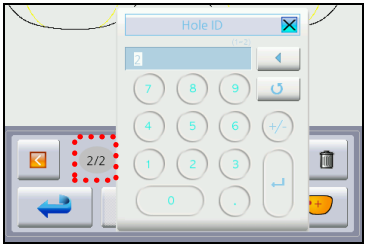


- Slot start point is green, end point is brown.

### 5.3.4 Select Hole

When a hole added, hole ID assigned automatically.

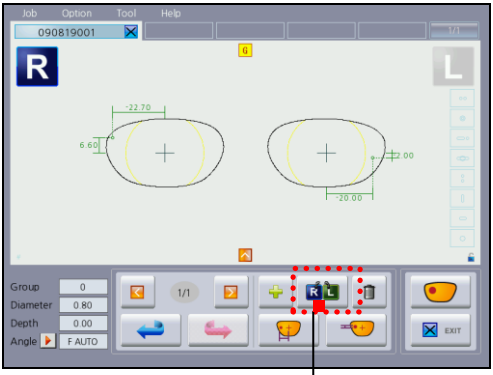
(Current Hole ID / Total)




Use Prev button( ) or Next button( ) to change hole ID.
Also it is possible to enter Hole ID directly with numeric keypad. (touch the Hold ID area)

## NOTE

- Use the Hole ID to distinguish hole data.
- To specify hole position R/L separately, turn off R/L sync option before specifying position.




R/L Sync Off

### 5.3.5 Delete Hole

Select hole to delete and then touch delete button( ).

### 5.3.6 Hole Position Reference (Horizontal)

Frame Center (Temporal : – value, Nasal : + value)

Temporal Box

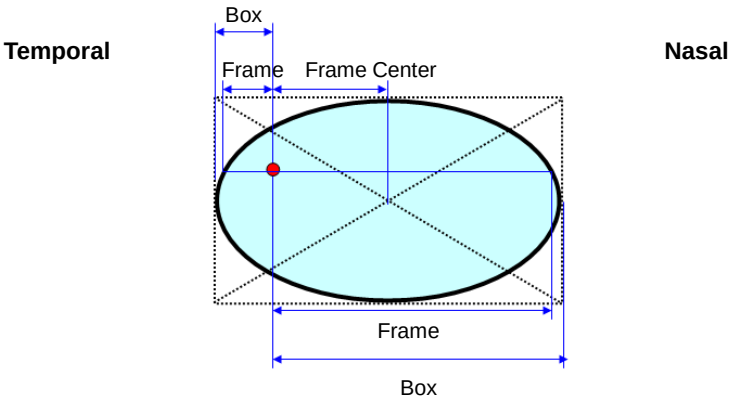
Nasal Box

Temporal Frame

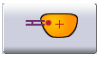
Nasal Frame

**NOTE**

- Horizontal Reference



### 5.3.7 Hole Position Reference (Vertical)



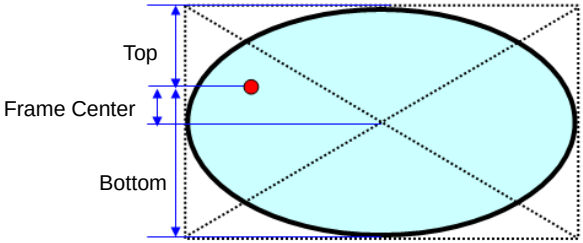
Frame Center (Top : + value, Bottom : - value)

Top Box

Bottom Box

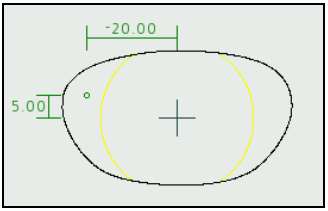
**NOTE**

- Vertical Reference

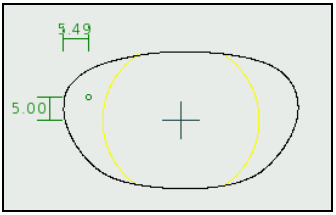



**NOTE**

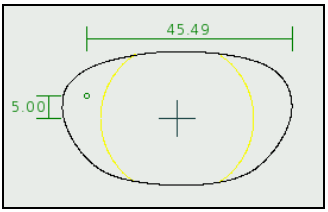
- Hole Position



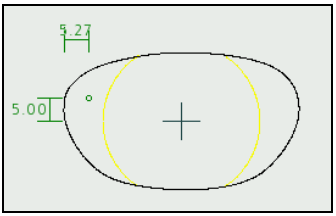

Frame Center (Horizontal)
Frame Center (Vertical)



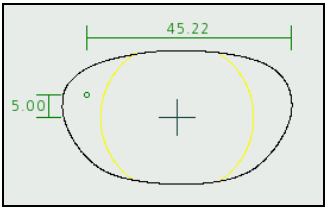

Temporal Box (Horizontal)
Frame Center (Vertical)



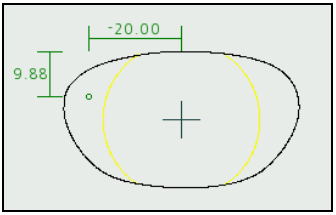

Nasal Box (Horizontal)
Frame Center (Vertical)



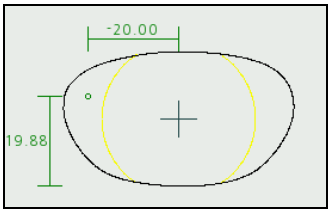

Temporal Frame (Horizontal)
Frame Center (Vertical)




Nasal Frame (Horizontal)
Frame Center (Vertical)




Frame Center (Horizontal)
Top Box (Vertical)




Frame Center (Horizontal)
Bottom Box (Vertical)

### 5.3.8 Undo

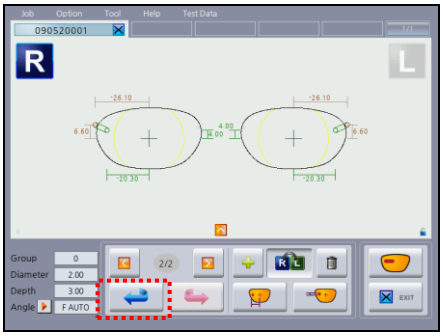
Touch undo button ( ) to undo the last change.
All actions entered by the user are stored automatically, even if you delete hole data by mistake, Hole Editor can easily revert to a previous state.

### 5.3.9 Redo

The Redo command ( ) reverses the Undo (The opposite of Undo command). The Redo button enabled after user excute undo function.

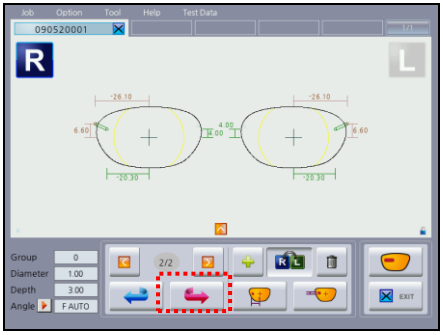
**NOTE**

- Undo/Redo



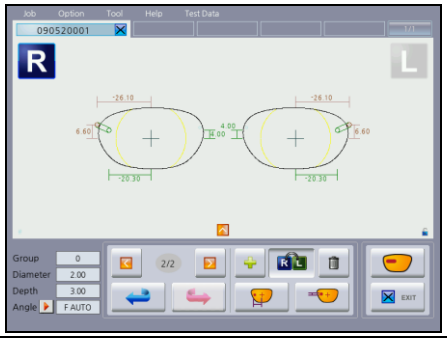

Slot diameter 1mm → 2mm

Undo




Slot diameter 1mm

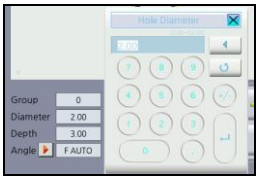
Redo




Slot diameter 2mm

### 5.3.10 Hole Attributes

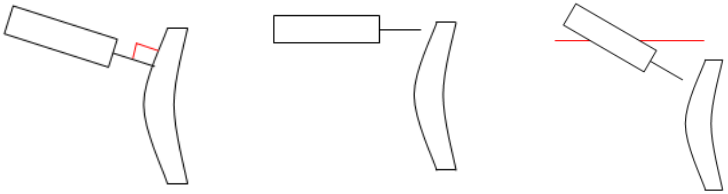
Hole attributes (Group, Diameter, Depth, Angle) are displayed on the bottom left of the screen.




- Diameter : Hole diameter (Min 0.8 mm)
- Depth : Hole depth (0 means through hole)
- Angle : Tilting angle (0° ~ 30°, Automatic)

**NOTE**

- Tilting Angle



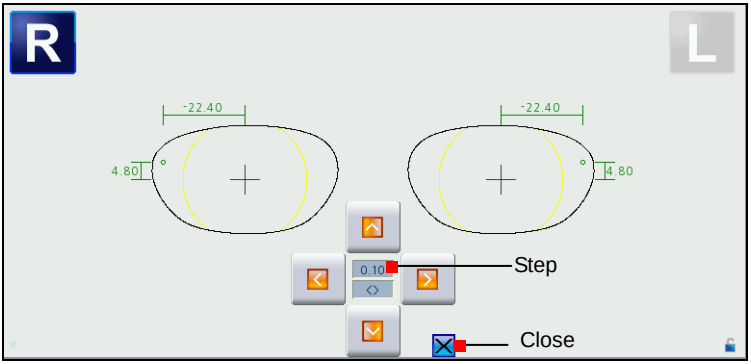
Automatic (perpendicular to surface) | 0° | 30°

- Group attribute explained in a separate chapter.

### 5.3.11 Hole Position Adjustment

This function enables user to adjust hole position easily and accurately.

If the adjustment button( ) touched, additional control panel displayed on the screen.

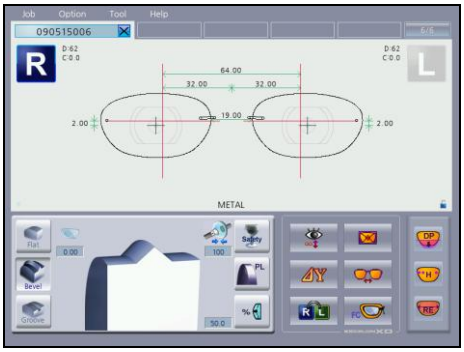



Touch direction button to change current hole position. (Step value applied)

### 5.3.12 Exit

Exit Hole Editor.

All holes are displayed on the main screen.



### 5.3.13 Group

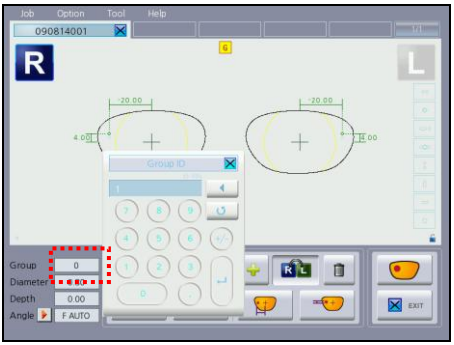
Group function enables user to edit several hole data at the same time.

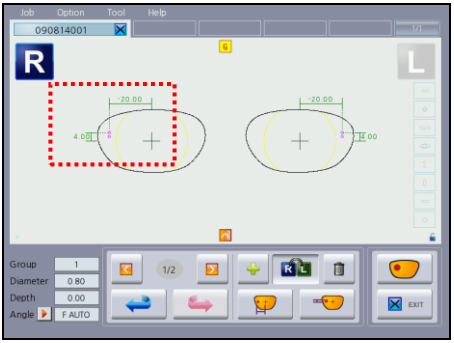
If the Group ID is same, hole position and property can be changed at once.

(1) Specify Group ID

Touch the Group ID box and enter Group ID.

("0" means currently selected hole data does not belong to any group)

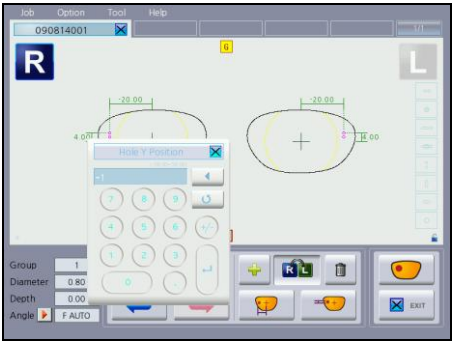



All hole data with same Group ID shown in pink color.

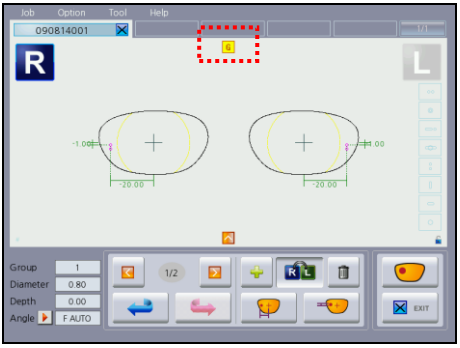
(2) Change group position

If you change position of any hole data of the group, all group data changed simultaneously.



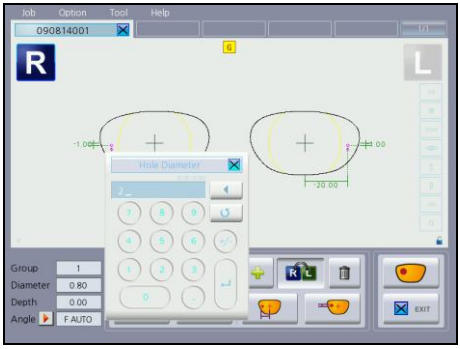

This function only working under Group Sync Mode. If the Group Sync Mode disabled, only selected hole data changed.

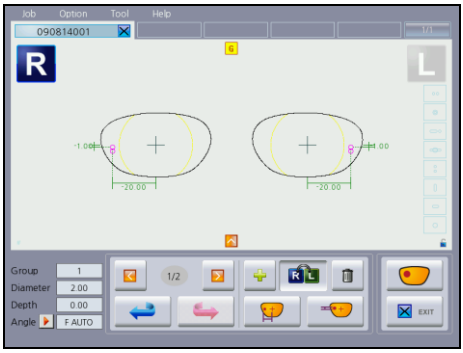
(G - Group Sync Mode, G - Group Sync Mode disabled)



(3) Change group property

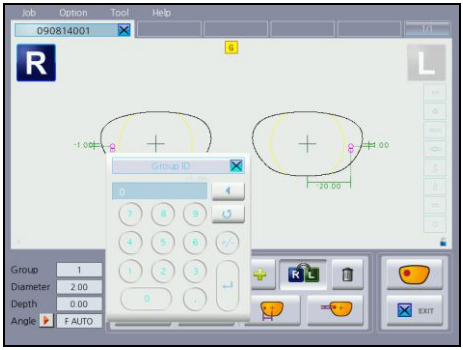
If you change property of any hole data of the group, all group data changed simultaneously. (Only working under Group Sync Mode)



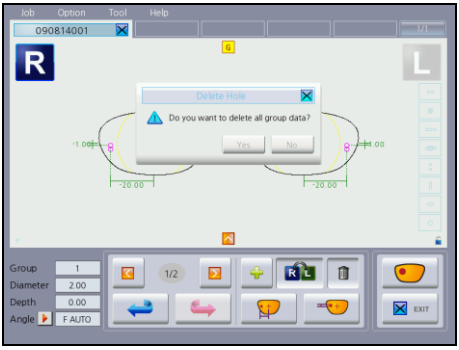

(4) Ungroup

Set to 0 to all Group ID.




(5) Delete all group data

If you delete any hole data of the group, all group data deleted simultaneously. (Only working under Group Sync Mode)



### 5.3.14 Hole data Load/Save

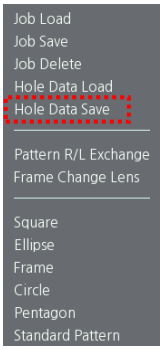
All hole data can be saved in the SD memory card for future reuse.

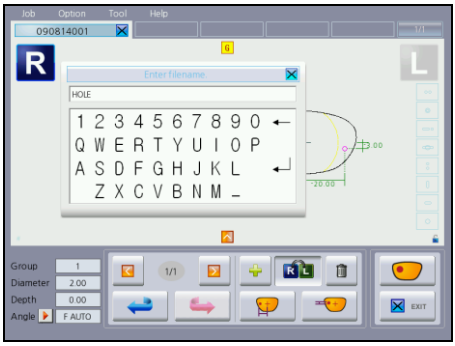
(1) Save hole data

Select "Job – Hole Data Save" in the menu bar.

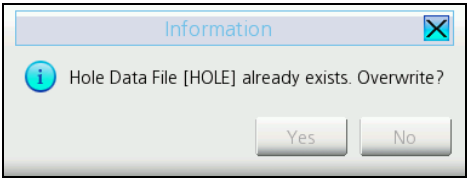
Enter filename to save. (Max 16 characters)

All hole data stored in the SD memory card.



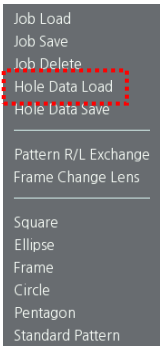

If the filename already exists in the SD memory card, warning dialog box displayed on the screen. User can choose overwrite or cancel.

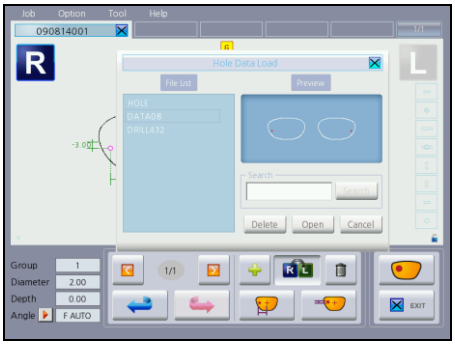


(2) Load hole data

Select "Job – Hole Data Load" in the menu bar to run hole data load dialog box.

Select filename to load in the left file list box and then open it.

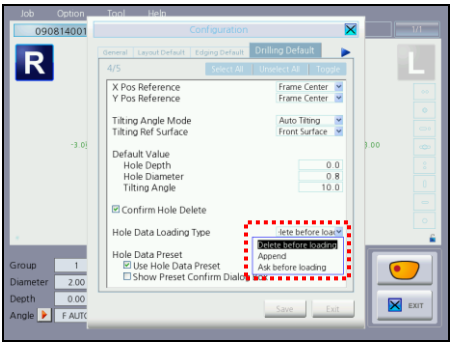



You can specify hole data loading method in the menu.

There are three kinds of loading method.

- Delete current hole data before loading
- Append to current hole data
- Ask to user before loading the data

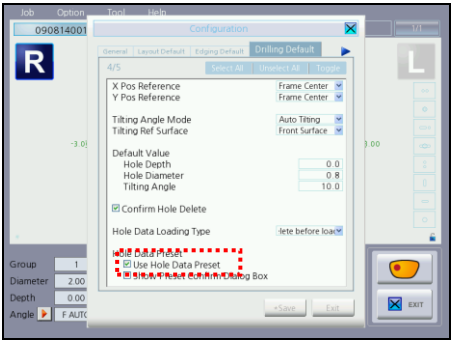



("Option – Configuration – Drilling Default")

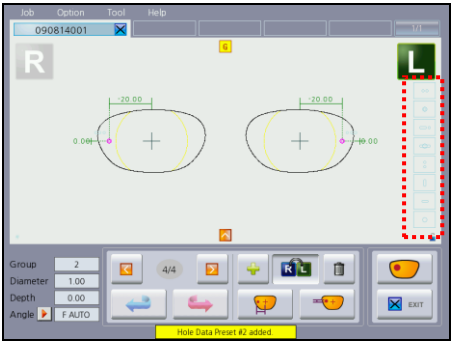
### 5.3.15 Hole data preset

Hole editor provides 8 built-in drilling pattern data for user convenience.
To use built-in patterns, hole data preset feature must be turned on.

Check "Use Hole Data Preset" item in the "Option – Configuration – Drilling Default" menu.




Touch the pattern box to load preset pattern.



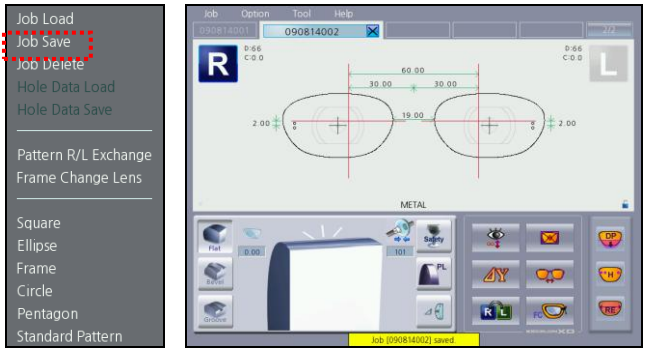

Preset pattern consist of group data, so you can change hole position and property using the group function.

## 5.4 Job Management

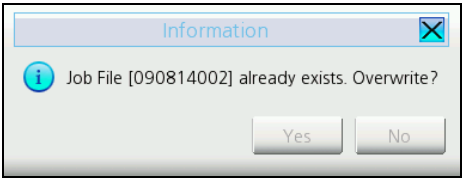
All job data received from auto-blocker or frame reader can be saved to the SD memory card for future reuse.

### 5.4.1 Job Save

Select "Job – Job Save" in the menu bar to save job data.
Current job number will be applied to the filename in the SD memory card.




If the filename already exists in the SD memory card, warning dialog box displayed on the screen. User can select overwrite or cancel.



## NOTE

- To prevent duplicate filename, change job number before saving.
- Touch the job tab again to change current job number. (Job number can be up to 16 characters)

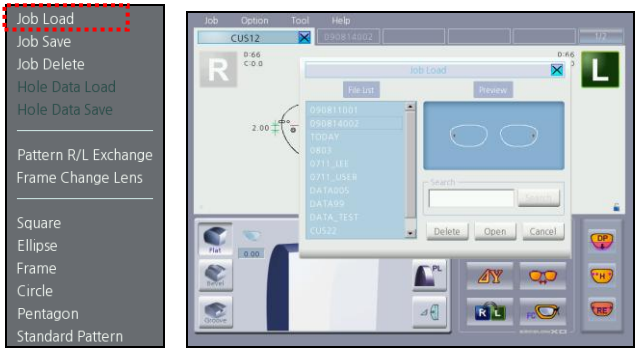
### 5.4.2 Job Load

Select "Job – Job Load" in the menu bar to run job load dialog box.

All job data in the SD memory card listed in the dialog box.

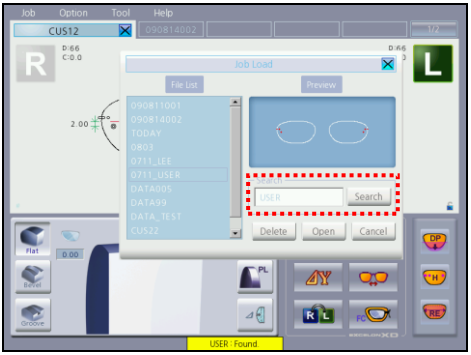
If you select job file in the left file list box, job data displayed in the right preview window.

Touch the open button to load selected job data.



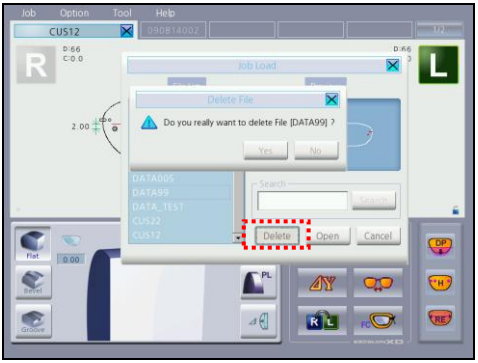

Search function is useful to find job file.

Enter filename (touch the input box in the search area) and then touch "Search" button. If the filename found, job data displayed in the preview window.




## NOTE

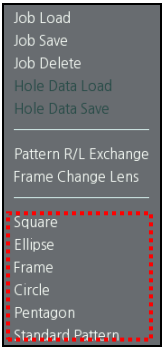
- To delete job data in the SD memory card, touch "Delete" button.



### 5.4.3 Internal Data

6 internal job data (Rectangle, Ellipse, Frame, Circle, Pentagon, Standard Pattern) are built in the program. This job data is used for testing edging quality.

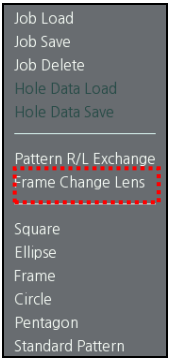
To use internal data, select the data from the "Job" menu in the menu bar.

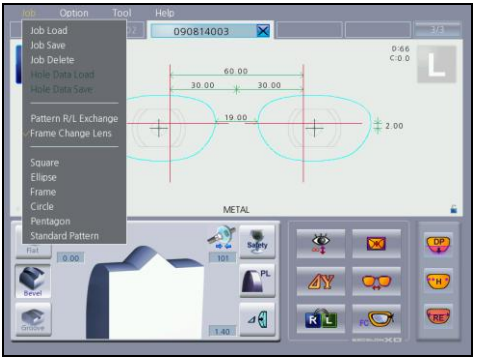



### 5.4.4 Specify Frame Change Lens

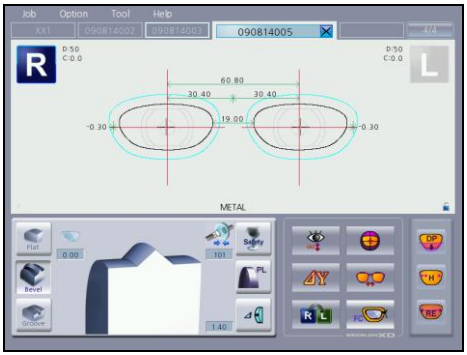
This function is used for registering frame change lens for frame change processing.

Select job data to use frame change lens and then select "Job – Frame Change Lens" in the menu bar.




If a job registered to frame change lens, the color of frame shape changed to blue and this frame shape always displayed in the frame change processing job.



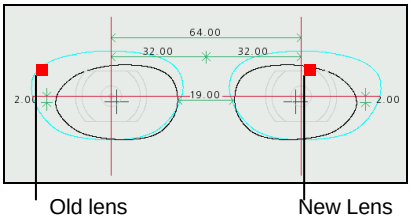

To unregister frame change lens, select "Job – Frame Change Lens" again in the menu bar.

## ⚠ NOTE

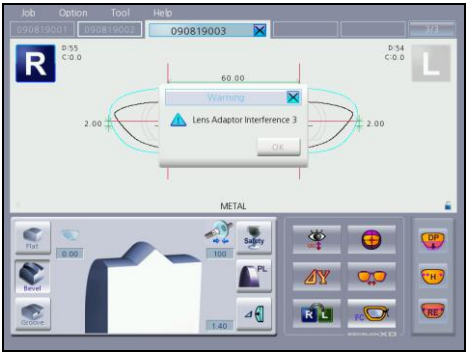
- How to frame change

  (1) Tracing old lens in the frame reader. (the lens blocked at optical center)
  (2) Register the job received from frame reader to frame change lens.
  (3) Select new job to processing and turn on frame change option in the layout button area.
  (4) The rest process is the same as normal lens process.

- In the frame change mode, the old lens and the new lens are displayed at the same time.



- The new lens must located in the old lens to start edging process. If interference occurs, error message is displayed and edging process stopped.




- The above procedure only applies when you use frame reader and manual blocker.

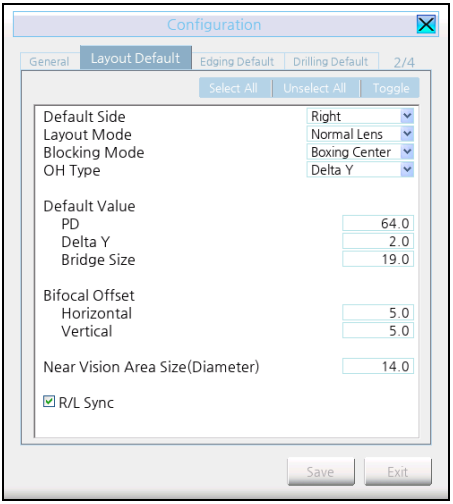
- If you use automatic blocker, just turn on frame change option. (You don't need to register frame change lens)

# 6. User Defined Options

## 6.1 Configuration

• Menu Bar → Option → Configuration

Configuration menu lets you customize many aspects of the way edger program works.




### 6.1.1 General

- language

  Select langauge to use.

- Sleep Mode

  Specify Sleep mode time. (minutes)

- Min Diameter Type

  Select "Min. Lens Diameter" display method.

  Optical Center – Calculate diameter on the basis of optical center of the lens

  Blocking Mode – Calculate diameter on the basis of blocking position of the lens.

- Use Advanced Digital Ptn Func

  Add "%" and "diameter" enlargement/reduction function in the Digital Patten screen.
- Numpad Preserve sign

  Preserve previous sign when you enter value in the numeric keypad.
- Realtime Edging Window (expr)

  Realtime Edging Window – Show edging progress window when edging started.

  Progress Bar Only – Show only edging steps

### 6.1.2 Layout Default

- Default Side

  Select default lens side.
- Layout mode

  Select default lens type (Normal lens, bifocal lens, bifocal(blend) lens)
- Blocking Mode

  Select default blocking mode (Boxing Center, Optical Center)
- OH type

  Select default OH type (Delta Y, Box Height, Mix Height)
- Default Value (PD, Delta Y, Bridge Size)

  Input default values
- Bifocal Offset

  Input default blocking offset of the bifocal lens.
- Bifocal Lens Size

  Input default size of near vision area.
- R/L Sync

  Select R/L Sync Mode
- Safety Check

  Setup parameters for safety check function.

  Safety Check Margin – Margin value for lens adaptor

Frame Change Margin – Margin value for frame change lens

Use Small Lens Adaptor – Show warning message when small lens adaptor needed

### 6.1.3 Edging Default

- Lens Material
  Select default lens material (Plastic, Polycarbonate, HI-Index, Glass, Trivex®)
- Use Fragile Mode
  Select default safety mode (Fragile mode, Normal mode)
- Default Edging Type
  Select default edging type
- Beveling Default Option
  Set default options for bevel edging
- Flat/Grooving Default Option
  Set default options for rimless edging

### 6.1.4 Hole Editor Default

- X Pos Reference/ Y Pos Reference
  Select default hole position coordinates reference
  X (Horizontal) – frame center / temporal box / nasal box
  Y (Vertical) – frame center / Top box / Bottom Box
- Tilting Angle Mode
  Set default titling mode (auto, manual)
- Tilting Ref Surface
  Select default tilting reference surface (front, back)
- Default Value (Depth, Diameter, tilting angle)
  Set default values
- Confirm Hole Delete

Show warning message when you delete hole data.

- Hole Data Loading Type

  Select hole data loading method

- Use Hole Data Preset

  Show hole data preset buttons in the hole editor screen

- Confirm preset load

  Show confirm message box when you load hole data preset

- Use Demo Lens Curve (Automatic correction of hole position)

  Apply demo lens curve value for drilling

- Default Demo Lens Curve

  Set default demo lens curve value

- Drill Bit Warning Message

  Show warning message when the diameter of the hole is smaller than the drill bit.

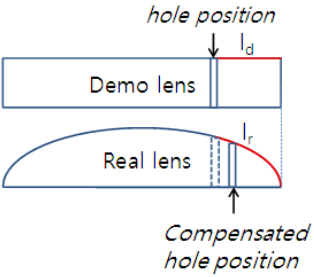
**NOTE**

- Automatic correction of hole position

If the curvature of lens is different from that of demo lens, the distance of hole from lens edge can be longer or shorter than desired.

Automatic correction of hole position is a function which compensate drilling hole position automatically by comparing curvatures of demo lens and actual lens.

If, Demo lens's curvature < Real lens's curvature

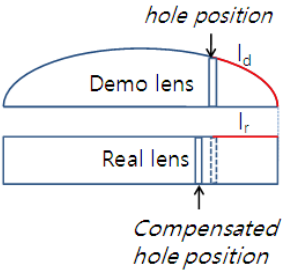



*compensation value :*

$l_d - l_r = r$

r value applied to drilling hole position

If, Demo lens's curvature > Real lens's curvature

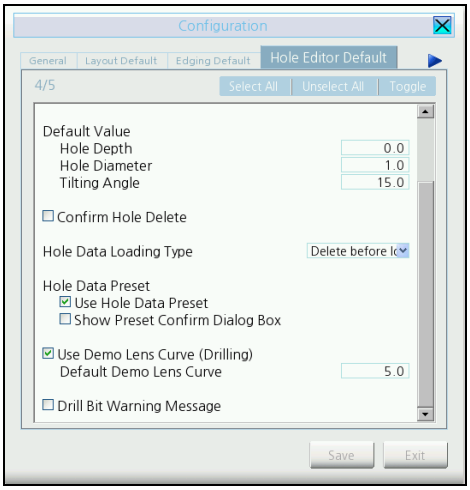



*compensation value :*

$l_d - l_r = r$

r value applied to drilling hole position

- How to use Automatic correction of hole position Function



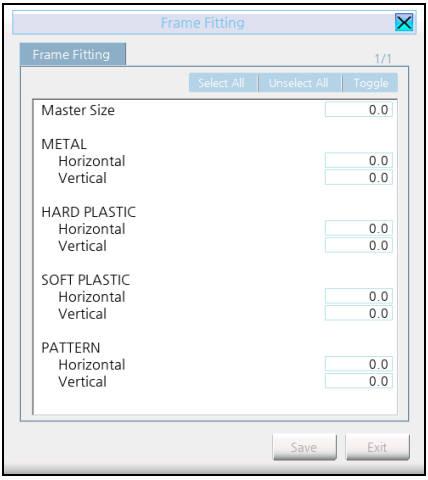

If the "Use Demo Lens Curve" option is turned on, the following dialog box is displayed on the screen when you start drill processing.

Select "Yes" to apply default demo lens curve value specified in the menu or Select "No" to enter the demo lens curve value directly.

## 6.2 Frame Fitting

- Menu Bar → Option → Frame Fitting

Frame Fitting used for adjusting the size variation due to the difference of the user's feeling of lens fitting.



• How to setup frame fitting values

(1) Trace the frame with Frame Reader

(2) Execute the edging process with Mid-Index Lens (low diopter lens preferred) and carry out the fitting with the edged lens.

(3) In case the edged lens is bigger than the frame, adjust the value to '-' (minus). In case the edged lens is smaller than the frame, adjust the value to '+' (plus).

**NOTE**

- Input each size variation value to all the frame material. (Input horizontal value and vertical value separately)
- Remember that these adjusted values are applied in diameter. (unit : mm)
- Using the "Master Size", the operator can set up the adjustment value for all frame materials simultaneously.

## 6.3 Adjustment

• Menu Bar → Option → Adjustment

There are several kinds of adjustment for the edger including Size Adjustment, Margin Adjustment, Axis Adjustment and etc.

**⚠ CAUTION**

- Adjustment values are closely related to the processing quality, so keep the fact ory default values.
- Before changing these values, ask advice of the service technician of Huvitz or the technician authorized by Huvitz.

### 6.3.1 Size Adjustment

Size Adjustment values are closely related to the size of the edged lens. These values are used to compensate lens size when the tolerance of the edged lens size was too big because of worn out of the edging wheel.

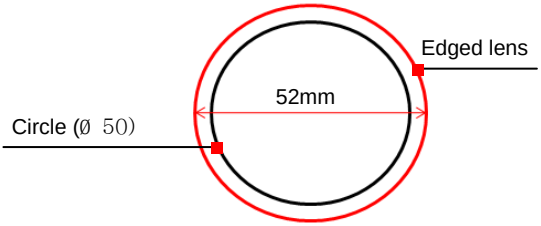
• Test Pattern
  - Use the internal Square(40mm x 40mm) and Circle(Ø 50).

• Test Cases
  - Use all kinds of materials such as Plastic, PC, HI-Index, Glass, Trivex®.
  - Execute the beveled process and the rimless process for all above kinds of material.
  - Check the adjustment amount for roughing and polishing respectively.

• Adjustment
  - Change the value within the tolerance ±0.1mm.
  - Remember that the adjusted values are applied in radius.

**NOTE**

- How to input adjustment value (Plastic, flat edging without polishing)




Enter -1 in the "Finishing → Rimless → PL" item.

### 6.3.2 Margin Adjustment

Setup margin values for next edging step.

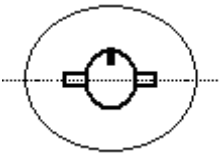
**CAUTION**

- Margin Adjustment values are also closely related to the size of the edged lens.
- Please keep the factory default values.

### 6.3.3 Axis Adjustment

These values are used for compensating distortion of axis during the edging process.

- Test Pattern
  - Draw a horizontal line on the lens and put the lens adaptor.



-

- **[After blocking the test lens]**
  - Execute the internal Square(40mm X 40mm)

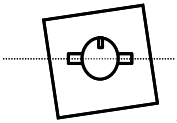
- Test Pattern
  - Check main(normal) axis, grooving axis, safety beveling axis, and polishing axis.
  - At first, main axis must be adjusted.

- Adjustment
  - The adjustment unit is degree(°).
  - Input (-) value to correct to the clockwise direction.

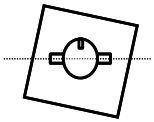
**NOTE**

- The following picture shows how to adjust incorrect axis value for every edging processes.

a. Main axis adjustment

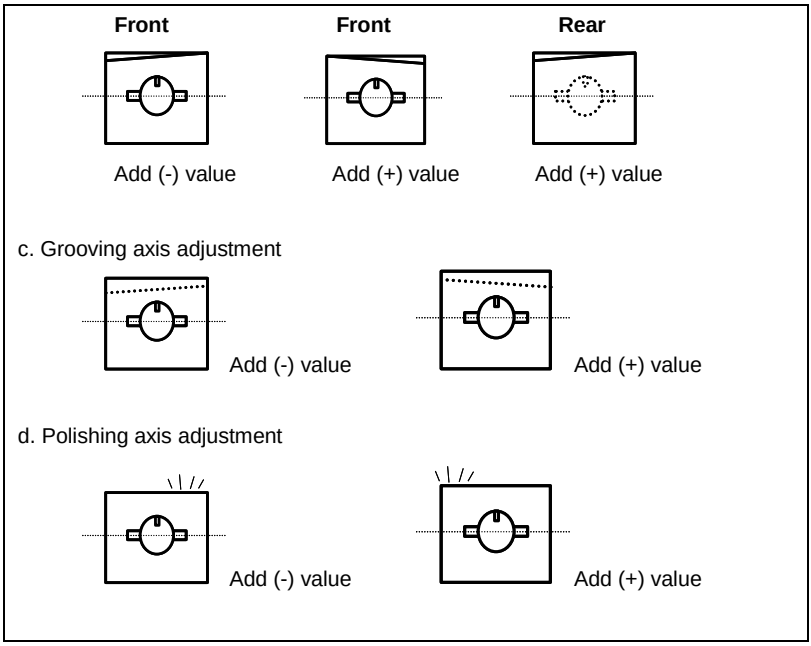


Add (-) value



Add (+) value

b. Safety beveling axis adjustment




### 6.3.4 Bevel Adjustment

These values are used for adjusting bevel position

- Test Pattern
  - Execute the Circle pattern (Ø 50) with the beveled position 50%.

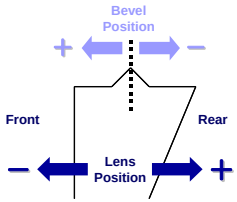
- Test Cases
  - Make the circle pattern with polishing and the circle pattern without polishing respectively.

- Adjustment
  - Change the value within the tolerance ±0.1mm.

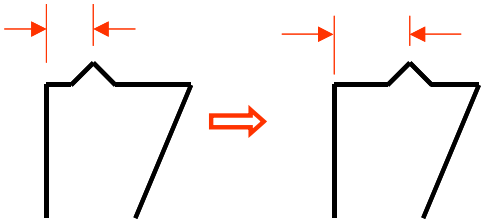
## NOTE

- Follow the next instructions to adjust the incorrect beveling.

a. The movement of beveled position

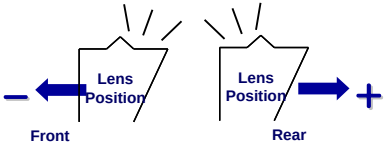



b. The effect of adding (-) value for the beveled position

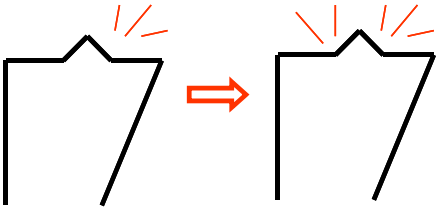


**After adding (-) Bevel Position Value**

c. The movement of polishing in bevel process




d. The effect of adding (-) for the polished position in bevel process



**After adding (-) Polish Bevel Value**

### 6.3.5 Grooving Adjustment

These values are used for adjusting groove position.

- Test Pattern
  - Execute the Circle pattern (Ø 50) with the grooving position 50%.

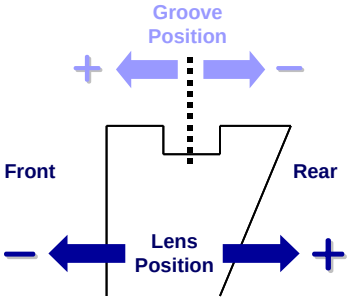
- Test Cases
  - Check the grooving position and depth.

- Adjustment
  - Change the value within the tolerance ±0.1mm.

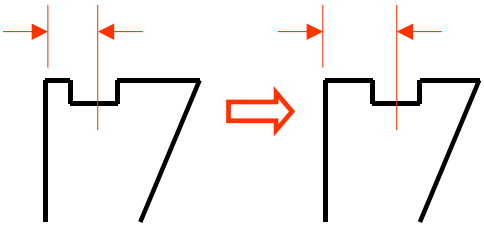
**NOTE**

- Follow the next instructions to adjust the incorrect grooving process

a. The movement of the grooving position




b. The effect of adding (-) value for the grooving position



After adding (-) Groove Position Value

### 6.3.6 Safety Beveling Adjustment

These values are used for adjusting safety bevel position.

- Test Pattern
  - Execute the Circle pattern (Ø 50) with the beveled position 50%.
  - Execute the Circle pattern (Ø 50) without the beveling.

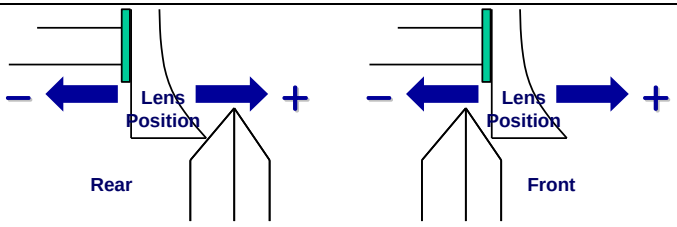
- Test Cases
  - Execute above two kinds of processes for each of materials including plastic, PC, HI-Index lens and Trivex®.
  - Apply the front and rear safety beveling to all cases.

- Test Cases
  - Change the value within the tolerance ±0.1mm.

**NOTE**

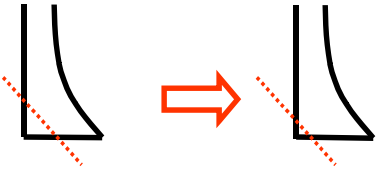
- Follow the next instructions to adjust the incorrect safety beveling

a. The tool movement for correcting




b. The effect after adjusting

**After adding (-) in SFB Rear side**



**After adding (+) in SFB Front side**

### 6.3.7 Clamp Pressure

Setup default clamping pressure for each lens material.

### 6.3.8 Processing Speed

- Rotation Limit

  Set amount of lens rotation for each edging step.
- Rotation Speed

Set lens rotation speed for each edging step and each material.

- Roughing Y Speed

  Set fall speed of lens when roughing edging started.

**⚠ CAUTION**

- These values are closely related to the quality of the edged lens so keep the factory default values.
- Too high "Rotation Speed" values cause axis distortion during edging.

### 6.3.9 System Adjustment

- Polish Wheel Size

  Enter compensation value for polishing wheel size.
- Max Rimless Thickness

  Set maximum lens thickness for rimless edging.
- Wheel for HI

  Select the roughing edging wheel for HI-Index lens.
- Feeling Outside of Bevel

  Enable or disable feeling outside of bevel.
- Bevel Height

  Set bevel height value for "Feeling Outside of Bevel" function.
- PC, TRI Edging Order

  Change the edging order of PC/TRI lens.
- Swap Pump 1,2

  OFF – Used as it is

  ON – Swap the function of Pump 1 and Pump 2.

  (Swap pump could be used when Pump 1 is out of order, Temporarily, you can use Pump 2 instead of Pump 1)

- Switch GL Roughing Rotation

  Change roughing rotation direction of Glass lens (a round)

### 6.3.10 Drilling Adjustment

These values are used for drilling adjust.

- Select Drill Bit

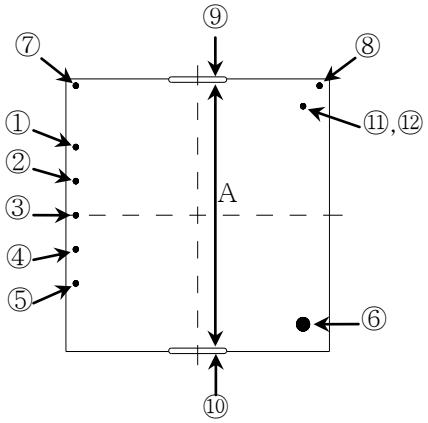
  Select drill bit size (Ø0.8mm or 1.0mm)

- Drill Feeding Method

  Select default drill feeding method (Once, Repeat)

For accurate drilling, the edger must meet the following conditions.

Load "Standard Drilling Adj" data in the Job menu and then start processing.
And check the following.




Standard drilling adjustment pattern

1) Check the drill depth with ① to ⑤. (Drill Depth Adjustment)

   ①, ② : not drilled.

   ③ slightly drilled on the lens surface.

   ④, ⑤ : drilled.

2) Check the drill hole diameter with ⑥. (Drill Hole Diameter Adjustment)
Check the hole size whether the Ø2.0mm straight pin passes through the hole softly.

3) Check the drill axis with ⑦and ⑧. (Drill Angle Adjustment)
Two holes are parallel with the lens edge.

4) Check the drill position with ⑨ and ⑩. (Drill Position Adjustment)
The distance of ⑨ to ⑩ is 39.0±0.1mm. (Ø 1.0mm drill bit : 38.8±0.1mm)

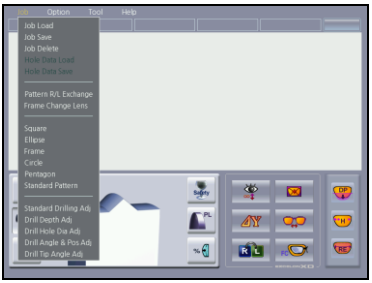
5) Check the drill tip angle with ⑪ and ⑫. (Drill Tip Angle Adjustment)
Two holes are overlapped on the lens front surface.

**NOTE**

• How to load drilling adjustment data

Select "Tool – Show Drilling Adjustment Data" in the menu bar. "√" mark displayed front of the label and Drilling adjustment data added to the internal data list in the "Job" menu.

Select adjustment data to use in the "Job" menu.

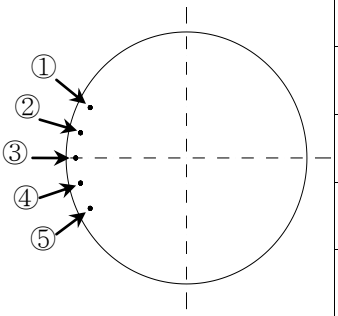



To hide drilling adjustment data, select "Tool – Show Drilling Adjustment Data" again.

If the result doesn't meet the condition, perform the specified adjustment procedure.

6.3.10.1 Drill Depth Adjustment.

Load "Drill Depth Adj" data in the Job menu and then start processing.




| No | Diameter (mm) | Tilting | Depth (mm) |
|---|---|---|---|
| ① | 0.8 | Auto | -0.2 |
| ② | 0.8 | Auto | -0.1 |
| ③ | 0.8 | Auto | 0.0 |
| ④ | 0.8 | Auto | 0.1 |
| ⑤ | 0.8 | Auto | 0.2 |

Drill Depth Adjustment Pattern

It is normal that ①, ② are not drilled, ③ is slightly drilled on the surface and ④, ⑤ are drilled. (Total 3 holes are drilled).

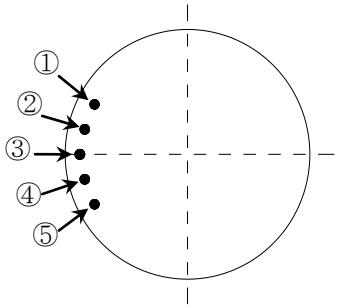
Check the number of holes.

If the number of holes is not equal to 3, adjust "Drill Depth Adj" value according to the following table.

| Number of holes | Compensation value |
|---|---|
| 5 | Current value – 0.2 |
| 4 | Current value – 0.1 |
| 3 | Keep the current value |
| 2 | Current value + 0.1 |
| 1 | Current value + 0.2 |
| 0 | Current value + 0.3 |

6.3.10.2 Drill Hole Diameter Adjustment

Load "Drill Hole Dia Adj" data in the Job menu and then start processing.




| No | Diameter (mm) | Tilting (°) |
|---|---|---|
| ① | 1.90 | Auto |
| ② | 1.95 | Auto |
| ③ | 2.00 | Auto |
| ④ | 2.05 | Auto |
| ⑤ | 2.10 | Auto |

Drill Hole Diameter Adjustment Pattern

Find a hole that Ø2.0mm standard pin passes through softly.

If you found matched hole, adjust "Drill Hole Diameter Adj" value according to the following table.

| Matched hole | Compensation value |
|---|---|
| ⑤ | Current value + 0.10 |
| ④ | Current value + 0.05 |
| ③ | Keep the current value |
| ② | Current value – 0.05 |
| ① | Current value – 0.10 |

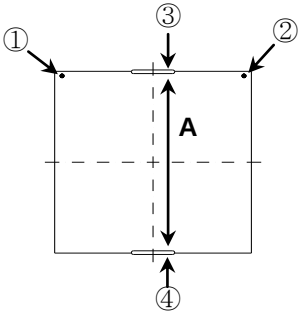
If there is no matched hole, adjust "Drill Hole Diameter Adj" value manually.

Hole diameter > Ø2.0mm : decrease the compensation value

Hole diameter < Ø2.0mm : increase the compensation value

6.3.10.3 Drill Angle & Position Adjustment

Load "Drill Angle & Pos Adj" data in the Job menu and then start processing.



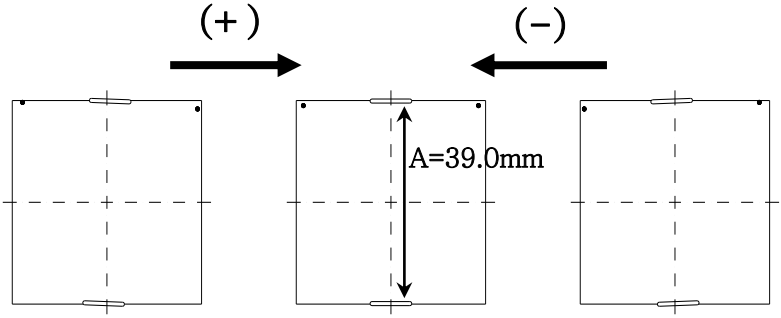

| No | Type | Diameter (mm) | Tilting (°) |
|---|---|---|---|
| ① | Hole | 0.8 | 0.0 |
| ② | Hole | 0.8 | 0.0 |
| ③ | Slot | 0.8 | 0.0 |
| ④ | Slot | 0.8 | 0.0 |

Drill Angle & Position Adjustment Pattern

1) Drill Axis

Check the two holes (①, ②) are parallel with edge line.

When viewed from the lens front, if ① and ② holes are lean to the left or right, adjust "Drill Axis Adj" value according to the following figure. (unit : degree(°))




2) Drill Position

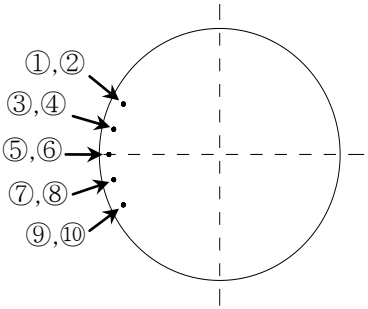
If the distance of the "A" is not 39.0±0.1mm(Ø1.0mm drill bit : 38.8±0.1mm), adjust "Drill Position Adj" value in the menu.

Ø0.8mm drill bit : Current value + ( (39.0 – A) / 2 )

Ø1.0mm drill bit : Current value + ( (38.8 – A) / 2 )

6.3.10.4 Drill Tip Axis Adjustment

Load "Drill Tip Angle Adj" data in the Job menu and then start processing.



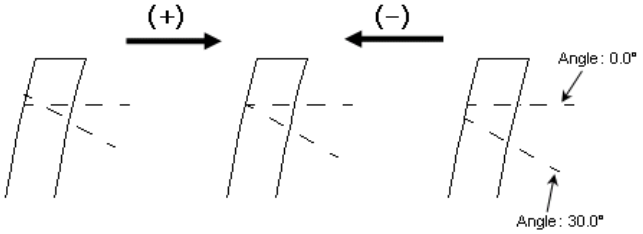

| No | Diameter (mm) | Tilting (°) |
|---|---|---|
| ①,③,⑤,⑦,⑨ | 0.8 | 0.0 |
| ②,④,⑥,⑧⑩ | 0.8 | 30.0 |

Drill Tip Angle Adjustment Pattern

If you found overlapped holes, adjust "Drill Tip Angle Adj" value according to the following table.

| Overlapped holes | Compensation value |
|---|---|
| ①,② | Current value - 0.5 |
| ③,④ | Current value - 0.2 |
| ⑤,⑥ | Keep the current value |
| ⑦,⑧ | Current value + 0.2 |
| ⑨,⑩ | Current value + 0.5 |

If there are no holes which overlap on the front surface, increase or decrease the "Drill Tip Angle Adj" parameter by angle value.



## 6.4 Configuration Management

- Factory default value status

  Shows factory default value saving status.
- Reset to factory default value.

  Clear current configuration data and reset to default value.
- Backup configuration data to SD card

  Backup current configuration value to SD memory card.
- Restore configuration data from SD card

  Clear current configuration data and restore backuped configuration data from SD memory card.

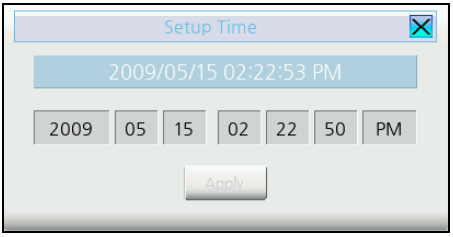
# 7. System Maintenance

## 7.1 Setup Time

- Menu Bar → Tool → Setup Time

Setup current time.

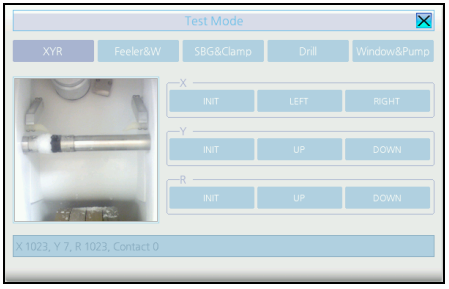
Make sure to reset current time after installation.




## 7.2 Test Mode

- Menu Bar → Tool → Test Mode

Test Mode helps user to find out whether the machine working properly or not.




## 7.3 Wheel Dressing

- Menu Bar → Tool → Wheel Dressing

Wheel Dressing is useful to maintain the wheel performance by way of removing the lens debris stick to the wheel.

## 7.4 Replacing Drill Bit

- Menu Bar → Tool → Replacing Drill Bit

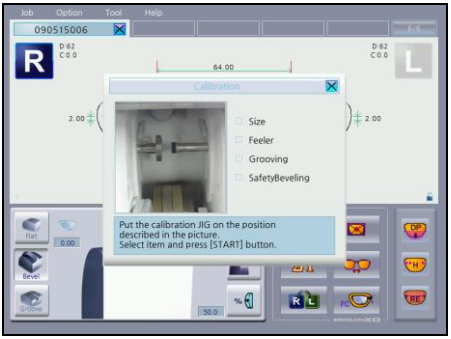
Move the drilling parts to replacing position.

## 7.5 Automatic Calibration

- Menu Bar → Tool → Calibration

Four kinds of calibration can be done with standard edging jig. Those are Size

Calibration, Feeler Calibration, Grooving Calibration and Safety Beveling Calibration.




How to calibrate edger

(1) Place startard edging JIG instead of lens adaptor holder.

(2) Select calibration type.

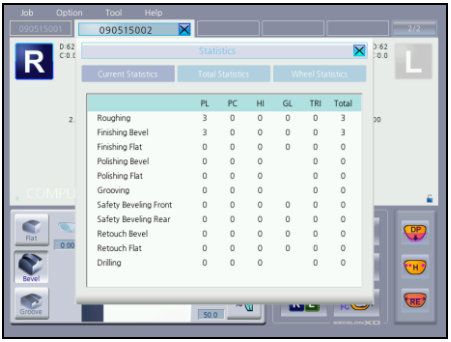
(3) Push the [START] button to start calibration

(4) After calibration, save the calibration data.

## 7.6 Statistics

- Menu Bar → Help → Statistics

It shows statistic information of the processed lens.



## 7.7 Maintenance Tips

- **Wheel & Drill Bit Replacement**

  It is recommended to keep the replacement cycle of Wheel in order to maintain the Edging Performance.

  - Wheel Replacement Cycle : 7,000 ~ 8,000 pieces of Lens edged
  - Drill Bit Replacement Cycle : 400 holes of Plastic lens (Ø 2).

  Be sure to replace the Finishing Wheel and Polishing Wheel at the same time.

- **Regular Maintenance**

  It is recommended to keep the regular maintenance cycle in order to maintain the Edging Performance. Be sure to carry out the regular maintenance by the service technician of Huvitz or the technician authorized by Huvitz.

  - Regular Maintenance Cycle : 1,500 ~ 2,000 pieces of Lens edged

- **Fuse Replacement**

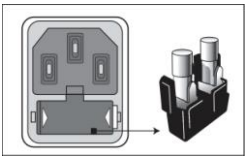
  Be sure to check the Fuse Specification for the replacement job.

  - Edger : 250V 10A

**NOTE**

- Be sure to use the appropriate Fuse. Otherwise it may damage the product or cause the fire.

- Fuse Replacement



# Standard Accessory

Operator's Manual ····· 1
Lens Adapter (Large) ····· 3
Lens Adapter (Small) ····· 5
Lens Adapter Holder (Large) ····· 1
Lens Adapter Holder (Small) ····· 1
LEAP-III Tape (500 Pads) ····· 1
Lens Adapter Remover ····· 1
Standard Frame (for Frame Reader Calibration) ····· 1
Standard Pattern (for Frame Reader Calibration) ····· 1
Pattern Holder ····· 1
Dressing Stick (Polishing Wheel) ····· 1
Dressing Stick (Finishing Wheel) ····· 1
Dressing Stick (Glass Roughing Wheel) ····· 1
Feeler Tip (Left) ····· 1
Feeler Tip (Right) ····· 1
Edger Calibration Jig ····· 1
Fuse(10A) ····· 2
Fuse(5A) ····· 2
Fuse(3.15A) ····· 2
Lamp (for Blocker) ····· 1
Wrench Set ····· 1
Carriage Fixing Bracket ····· 1
Feeler Fixing Bracket ····· 1
Water Drain Hose ····· 1
Water Supply Hose ····· 1
Water Drain Hose Fixing Clip ····· 1
Power Cable (Edger) ····· 1
9-pin Dsub Serial Cable (Crossed) ····· 1

Option

**Water Supply System**

Water Tank ····· 1
Water Tank Carrier ····· 1
Strainer ····· 1
Pump 1 ····· 1
Pump 2 ····· 1
**Edger Table Specification** ····· 1

# Specification

Edger

| | |
|---|---|
| Edging System | Auto |
| Edging Mode | Beveling |
| | Flat Edging |
| | Grooving |
| | Safety Beveling |
| | Polishing |
| | Drilling |
| Lens Material | Plastic, Glass, Polycarbonate, Hi-Index, Trivex® |
| Edging Size | Maximum 90mm |
| | Minimum 18mm |
| Weight | 55 kg |
| Power Supply | AC 100~120V, AC 200~240V, 50/60Hz |
| Power Consumption | 1200W(Maximum) |
| Dimension | 570(W) x 540(D) x 460(H) mm |

# Drawings of System